```
Lys Pro Leu Val Ala Glu Thr Asp Ser Pro His Arg Ala Ala Phe Val
            405             410             415

Val Gly Gly Ser Ser Phe Pro Asp Thr Ser Leu Val Leu Glu Thr Lys
            420             425             430

Glu Pro Glu Ile Glu Leu Pro Lys Glu Pro Arg Pro Asn Glu Glu Cys
            435             440             445

Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp
            450             455             460

Ala Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys
465             470             475             480

Leu Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg
            485             490             495

Gln Leu Leu Ser Lys Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu
            500             505             510

Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Leu Gly Ala Cys Cys Glu
            515             520             525

Asn Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Val Gly Pro Leu
            530             535             540

Cys Leu Asp Gly Lys Glu Phe Gln Val Pro Met Ala Thr Thr Glu Gly
545             550             555             560

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Cys Leu Gly
            565             570             575

Gly Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro
            580             585             590

Val Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp
            595             600             605

Leu Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Glu Ala Phe Asp Ser
            610             615             620

Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu His Ile Ser Met Ala Gly
625             630             635             640
```

```
Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg Thr Gly Asp Ala Met Gly
            645             650         655

Met Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Ser Lys Leu His
            660             665         670

Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys
        675             680         685

Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
    690             695             700

Thr Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val
705             710             715             720

Leu Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn
            725             730             735

Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His
            740             745             750

Ala Ala Asn Tyr Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala
        755             760             765

Ala Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser
    770             775             780

Gly Pro Pro Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile
785             790             795             800

Glu Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala
            805             810             815

Cys Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Ser Pro Gly
        820             825             830

Glu Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala
    835             840             845

Gly Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Lys
    850             855             860

Ser His Met Ile His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Glu
865             870             875             880
```

```
Gly Ala Cys Thr Lys Lys Ala Ala
                885


<210>   289
<211>   887
<212>   PRT
<213>   Rattus norvegicus

<400>   289

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1               5                   10                  15


Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
                20                  25                  30


Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
            35                  40                  45


Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
        50                  55                  60


Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65                  70                  75                  80


Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
                85                  90                  95


Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
                100                 105                 110


Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
            115                 120                 125


Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
        130                 135                 140


Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145                 150                 155                 160


Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
                165                 170                 175


Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
                180                 185                 190


Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
            195                 200                 205
```

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
210   215   220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225   230   235   240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
                245   250   255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
            260   265   270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Ala Glu Gln Ser Lys
            275   280   285

Val Ser Leu Gly Leu Ala Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
    290   295   300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305   310   315   320

Glu Gln Val Ile Thr Leu Ser Leu Ala Leu Leu Leu Ala Val Lys Tyr
                325   330   335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
            340   345   350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Gln Asp Asn Cys
        355   360   365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Asn Gln Lys Leu Ser Ser
    370   375   380

Val Glu Glu Asp Pro Gly Val Asn Gln Asp Arg Lys Val Glu Val Ile
385   390   395   400

Lys Pro Leu Val Ala Glu Ala Glu Thr Ser Gly Arg Ala Thr Phe Val
                405   410   415

Leu Gly Ala Ser Ala Ala Ser Pro Pro Leu Ala Leu Gly Ala Gln Glu
            420   425   430

Pro Gly Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
            435   440   445

```
Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
    450             455             460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465             470             475             480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
            485             490             495

Leu Leu Ser Ala Lys Leu Ala Glu Pro Ser Ser Leu Gln Tyr Leu Pro
            500             505             510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
        515             520             525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
    530             535             540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545             550             555             560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Ser Leu Gly Gly
            565             570             575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Ser Arg Gly Pro Val
            580             585             590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ser Trp Leu
    595             600             605

Glu Thr Pro Glu Gly Phe Ala Val Val Lys Glu Ala Phe Asp Ser Thr
    610             615             620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Leu Ala Gly Arg
625             630             635             640

Asn Leu Tyr Ile Arg Leu Gln Ser Lys Thr Gly Asp Ala Met Gly Met
            645             650             655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu
            660             665             670

Gly Val Pro Glu Leu Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
            675             680             685
```

```
Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr
    690             695             700
```

```
Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu
705             710             715             720
```

```
Lys Thr Thr Thr Glu Ala Met Val Asp Val Asn Ile Asn Lys Asn Leu
            725             730             735
```

```
Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Leu His Ala
        740             745             750
```

```
Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
    755             760             765
```

```
Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
    770             775             780
```

```
Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785             790             795             800
```

```
Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
            805             810             815
```

```
Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
        820             825             830
```

```
Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
        835             840             845
```

```
Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
850             855             860
```

```
His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865             870             875             880
```

```
Thr Cys Thr Lys Lys Ala Ala
            885
```

```
<210> 290
<211> 491
<212> PRT
<213> Saccharomyces cerevisiae
```

```
<400> 290
```

```
Met Lys Leu Ser Thr Lys Leu Cys Trp Cys Gly Ile Lys Gly Arg Leu
1           5               10              15
```

```
Arg Pro Gln Lys Gln Gln Gln Leu His Asn Thr Asn Leu Gln Met Thr
            20                  25                  30

Glu Leu Lys Lys Gln Lys Thr Ala Glu Gln Lys Thr Arg Pro Gln Asn
            35                  40                  45

Val Gly Ile Lys Gly Ile Gln Ile Tyr Ile Pro Thr Gln Cys Val Asn
            50                  55                  60

Gln Ser Glu Leu Glu Lys Phe Asp Gly Val Ser Gln Gly Lys Tyr Thr
65                  70                  75                  80

Ile Gly Leu Gly Gln Thr Asn Met Ser Phe Val Asn Asp Arg Glu Asp
            85                  90                  95

Ile Tyr Ser Met Ser Leu Thr Val Leu Ser Lys Leu Ile Lys Ser Tyr
            100                 105                 110

Asn Ile Asp Thr Asn Lys Ile Gly Arg Leu Glu Val Gly Thr Glu Thr
            115                 120                 125

Leu Ile Asp Lys Ser Lys Ser Val Lys Ser Val Leu Met Gln Leu Phe
            130                 135                 140

Gly Glu Asn Thr Asp Val Glu Gly Ile Asp Thr Leu Asn Ala Cys Tyr
145                 150                 155                 160

Gly Gly Thr Asn Ala Leu Phe Asn Ser Leu Asn Trp Ile Glu Ser Asn
                165                 170                 175

Ala Trp Asp Gly Arg Asp Ala Ile Val Val Cys Gly Asp Ile Ala Ile
            180                 185                 190

Tyr Asp Lys Gly Ala Ala Arg Pro Thr Gly Gly Ala Gly Thr Val Ala
            195                 200                 205

Met Trp Ile Gly Pro Asp Ala Pro Ile Val Phe Asp Ser Val Arg Ala
    210                 215                 220

Ser Tyr Met Glu His Ala Tyr Asp Phe Tyr Lys Pro Asp Phe Thr Ser
225                 230                 235                 240

Glu Tyr Pro Tyr Val Asp Gly His Phe Ser Leu Thr Cys Tyr Val Lys
                245                 250                 255
```

Ala Leu Asp Gln Val Tyr Lys Ser Tyr Ser Lys Lys Ala Ile Ser Lys
        260   265   270

Gly Leu Val Ser Asp Pro Ala Gly Ser Asp Ala Leu Asn Val Leu Lys
        275   280   285

Tyr Phe Asp Tyr Asn Val Phe His Val Pro Thr Cys Lys Leu Val Thr
        290   295   300

Lys Ser Tyr Gly Arg Leu Leu Tyr Asn Asp Phe Arg Ala Asn Pro Gln
305   310   315   320

Leu Phe Pro Glu Val Asp Ala Glu Leu Ala Thr Arg Asp Tyr Asp Glu
                325   330   335

Ser Leu Thr Asp Lys Asn Ile Glu Lys Thr Phe Val Asn Val Ala Lys
        340   345   350

Pro Phe His Lys Glu Arg Val Ala Gln Ser Leu Ile Val Pro Thr Asn
        355   360   365

Thr Gly Asn Met Tyr Thr Ala Ser Val Tyr Ala Ala Phe Ala Ser Leu
        370   375   380

Leu Asn Tyr Val Gly Ser Asp Asp Leu Gln Gly Lys Arg Val Gly Leu
385   390   395   400

Phe Ser Tyr Gly Ser Gly Leu Ala Ala Ser Leu Tyr Ser Cys Lys Ile
                405   410   415

Val Gly Asp Val Gln His Ile Ile Lys Glu Leu Asp Ile Thr Asn Lys
                420   425   430

Leu Ala Lys Arg Ile Thr Glu Thr Pro Lys Asp Tyr Glu Ala Ala Ile
        435   440   445

Glu Leu Arg Glu Asn Ala His Leu Lys Lys Asn Phe Lys Pro Gln Gly
        450   455   460

Ser Ile Glu His Leu Gln Ser Gly Val Tyr Tyr Leu Thr Asn Ile Asp
465   470   475   480

Asp Lys Phe Arg Arg Ser Tyr Asp Val Lys Lys
                485   490

<210> 291
<211> 447
<212> PRT
<213> Schizosaccharomyces pombe

<400> 291

Met Ser Phe Asp Arg Lys Asp Ile Gly Ile Lys Gly Leu Val Leu Tyr
1   5   10   15

Thr Pro Asn Gln Tyr Val Glu Gln Ala Ala Leu Glu Ala His Asp Gly
            20   25   30

Val Ser Thr Gly Lys Tyr Thr Ile Gly Leu Gly Leu Thr Lys Met Ala
            35   40   45

Phe Val Asp Asp Arg Glu Asp Ile Tyr Ser Phe Gly Leu Thr Ala Leu
        50   55   60

Ser Gln Leu Ile Lys Arg Tyr Gln Ile Asp Ile Ser Lys Ile Gly Arg
65   70   75   80

Leu Glu Val Gly Thr Glu Thr Ile Ile Asp Lys Ser Lys Ser Val Lys
                85   90   95

Ser Val Leu Met Gln Leu Phe Gly Asp Asn His Asn Val Glu Gly Ile
            100   105   110

Asp Cys Val Asn Ala Cys Tyr Gly Gly Val Asn Ala Leu Phe Asn Thr
            115   120   125

Ile Asp Trp Ile Glu Ser Ser Ala Trp Asp Gly Arg Asp Gly Ile Val
    130   135   140

Val Ala Gly Asp Ile Ala Leu Tyr Ala Lys Gly Asn Ala Arg Pro Thr
145   150   155   160

Gly Gly Ala Gly Cys Val Ala Leu Leu Val Gly Pro Asn Ala Pro Ile
                165   170   175

Val Phe Glu Pro Gly Leu Arg Gly Thr Tyr Met Gln His Ala Tyr Asp
            180   185   190

Phe Tyr Lys Pro Asp Leu Thr Ser Glu Tyr Pro Tyr Val Asp Gly His
        195   200   205

Phe Ser Leu Glu Cys Tyr Val Lys Ala Leu Asp Gly Ala Tyr Ala Asn
    210   215   220

25156216   - 509 -

Tyr Asn Val Arg Asp Val Ala Lys Asn Gly Lys Ser Gln Gly Leu Gly
225   230   235   240

Leu Asp Arg Phe Asp Tyr Cys Ile Phe His Ala Pro Thr Cys Lys Gln
            245   250   255

Val Gln Lys Ala Tyr Ala Arg Leu Leu Tyr Thr Asp Ser Ala Ala Glu
        260   265   270

Pro Ser Asn Pro Glu Leu Glu Gly Val Arg Glu Leu Leu Ser Thr Leu
        275   280   285

Asp Ala Lys Lys Ser Leu Thr Asp Lys Ala Leu Glu Lys Gly Leu Met
        290   295   300

Ala Ile Thr Lys Glu Arg Phe Asn Lys Arg Val Ser Pro Ser Val Tyr
305   310   315   320

Ala Pro Thr Asn Cys Gly Asn Met Tyr Thr Ala Ser Ile Phe Ser Cys
            325   330   335

Leu Thr Ala Leu Leu Ser Arg Val Pro Ala Asp Glu Leu Lys Gly Lys
            340   345   350

Arg Val Gly Ala Tyr Ser Tyr Gly Ser Gly Leu Ala Ala Ser Phe Phe
        355   360   365

Ser Phe Val Val Lys Gly Asp Val Ser Glu Ile Ala Lys Lys Thr Asn
    370   375   380

Leu Val Asn Asp Leu Asp Asn Arg His Cys Leu Thr Pro Thr Gln Tyr
385   390   395   400

Glu Glu Ala Ile Glu Leu Arg His Gln Ala His Leu Lys Lys Asn Phe
            405   410   415

Thr Pro Lys Gly Ser Ile Glu Arg Leu Arg Ser Gly Thr Tyr Tyr Leu
            420   425   430

Thr Gly Ile Asp Asp Met Phe Arg Arg Ser Tyr Ser Val Lys Pro
            435   440   445

<210>   292
<211>   520
<212>   PRT

<213>   HUMAN

<400>   292

Met Pro Gly Ser Leu Pro Leu Asn Ala Glu Ala Cys Trp Pro Lys Asp
1   5   10   15

Val Gly Ile Val Ala Leu Glu Ile Tyr Phe Pro Ser Gln Tyr Val Asp
            20   25   30

Gln Ala Glu Leu Glu Lys Tyr Asp Gly Val Asp Ala Gly Lys Tyr Thr
        35   40   45

Ile Gly Leu Gly Gln Ala Lys Met Gly Phe Cys Thr Asp Arg Glu Asp
    50   55   60

Ile Asn Ser Leu Cys Met Thr Val Val Gln Asn Leu Met Glu Arg Asn
65   70   75   80

Asn Leu Ser Tyr Asp Cys Ile Gly Arg Leu Glu Val Gly Thr Glu Thr
            85   90   95

Ile Ile Asp Lys Ser Lys Ser Val Lys Thr Asn Leu Met Gln Leu Phe
            100   105   110

Glu Glu Ser Gly Asn Thr Asp Ile Glu Gly Ile Asp Thr Thr Asn Ala
        115   120   125

Cys Tyr Gly Gly Thr Ala Ala Val Phe Asn Ala Val Asn Trp Ile Glu
    130   135   140

Ser Ser Ser Trp Asp Gly Arg Tyr Ala Leu Val Val Ala Gly Asp Ile
145   150   155   160

Ala Val Tyr Ala Thr Gly Asn Ala Arg Pro Thr Gly Gly Val Gly Ala
            165   170   175

Val Ala Leu Leu Ile Gly Pro Asn Ala Pro Leu Ile Phe Glu Arg Gly
            180   185   190

Leu Arg Gly Thr His Met Gln His Ala Tyr Asp Phe Tyr Lys Pro Asp
        195   200   205

Met Leu Ser Glu Tyr Pro Ile Val Asp Gly Lys Leu Ser Ile Gln Cys
    210   215   220

Tyr Leu Ser Ala Leu Asp Arg Cys Tyr Ser Val Tyr Cys Lys Lys Ile

His Ala Gln Trp Gln Lys Glu Gly Asn Asp Lys Asp Phe Thr Leu Asn
                245   250   255

Asp Phe Gly Phe Met Ile Phe His Ser Pro Tyr Cys Lys Leu Val Gln
            260   265   270

Lys Ser Leu Ala Arg Met Leu Leu Asn Asp Phe Leu Asn Asp Gln Asn
            275   280   285

Arg Asp Lys Asn Ser Ile Tyr Ser Gly Leu Glu Ala Phe Gly Asp Val
    290   295   300

Lys Leu Glu Asp Thr Tyr Phe Asp Arg Asp Val Glu Lys Ala Phe Met
305   310   315   320

Lys Ala Ser Ser Glu Leu Phe Ser Gln Lys Thr Lys Ala Ser Leu Leu
                325   330   335

Val Ser Asn Gln Asn Gly Asn Met Tyr Thr Ser Ser Val Tyr Gly Ser
            340   345   350

Leu Ala Ser Val Leu Ala Gln Tyr Ser Pro Gln Gln Leu Ala Gly Lys
        355   360   365

Arg Ile Gly Val Phe Ser Tyr Gly Ser Gly Leu Ala Ala Thr Leu Tyr
    370   375   380

Ser Leu Lys Val Thr Gln Asp Ala Thr Pro Gly Ser Ala Leu Asp Lys
385   390   395   400

Ile Thr Ala Ser Leu Cys Asp Leu Lys Ser Arg Leu Asp Ser Arg Thr
            405   410   415

Gly Val Ala Pro Asp Val Phe Ala Glu Asn Met Lys Leu Arg Glu Asp
            420   425   430

Thr His His Leu Val Asn Tyr Ile Pro Gln Gly Ser Ile Asp Ser Leu
        435   440   445

Phe Glu Gly Thr Trp Tyr Leu Val Arg Val Asp Glu Lys His Arg Arg
    450   455   460

Thr Tyr Ala Arg Arg Pro Thr Pro Asn Asp Asp Thr Leu Asp Glu Gly
465   470   475   480

Val Gly Leu Val His Ser Asn Ile Ala Thr Glu His Ile Pro Ser Pro
              485   490   495

Ala Lys Lys Val Pro Arg Leu Pro Ala Thr Ala Ala Glu Pro Glu Ala
              500   505   510

Ala Val Ile Ser Asn Gly Glu His
          515   520

<210> 293
<211> 163
<212> PRT
<213> Dictyostelium discoideum

<400> 293

Arg His Glu Asn Asp Tyr Ala Thr Lys Val Ala Pro Thr Thr Leu Leu
1   5   10   15

Ala Lys Gln Leu Gly Asn Thr Tyr Cys Gly Ser Thr Tyr Ser Gly Leu
              20   25   30

Leu Ser Leu Leu Asp Glu Lys Ser Asn Asp Leu Val Gly Lys Arg Val
              35   40   45

Leu Thr Phe Ser Tyr Gly Ser Gly Leu Ala Ala Ser Ala Phe Ser Phe
          50   55   60

Lys Val Glu Lys Pro Ile Asn His Ile Val Glu Lys Val Asp Leu Lys
65   70   75   80

Asn Arg Leu Ala Lys Arg Val Arg Val Glu Pro Glu Ile Phe Thr Glu
              85   90   95

Lys Leu Ser Leu Arg Glu Thr Arg His Asn Leu Lys Asn Tyr Val Pro
              100   105   110

Ser Asp Glu Thr Thr Asn Met Phe Pro Gly Ser Phe Tyr Leu Ser Ser
          115   120   125

Val Asp Lys Ala Gly Ile Arg Lys Phe Asp Arg Thr Tyr Ser Thr Ser
          130   135   140

Ala Val Leu Gly Ala Phe Gln Arg Arg Gln Gln Ile Ser His Gln Gln
145   150   155   160

Ser Asn Leu

<210> 294
<211> 458
<212> PRT
<213> Caenorhabditis elegans

<400> 294

Gln Leu Ser Tyr Thr Pro Val Thr Asp Val Gly Ile Gly Ala Ile Glu
1   5   10   15

Leu Tyr Phe Pro Gln Asn Phe Val Asp Gln Asn Asp Leu Glu Lys Phe
                20   25   30

Asn Asn Val Ser Ser Gly Lys Tyr Thr Ile Gly Leu Gly Gln Gln Gln
                35   40   45

Met Gly Phe Cys Ser Asp Asn Glu Asp Ile Val Ser Ile Ser Leu Thr
        50   55   60

Val Thr Arg Lys Leu Ile Glu Thr Tyr Lys Ile Ser Thr Asp Ser Ile
65   70   75   80

Gly Cys Leu Val Val Gly Thr Glu Thr Met Ile Asp Lys Ser Lys Ser
                85   90   95

Val Lys Thr Ala Leu Met Asp Leu Phe Pro Gly Asn Ser Asp Ile Glu
                100   105   110

Gly Val Asp Ile Lys Asn Ala Cys Phe Gly Gly Ala Gln Ala Leu Leu
                115   120   125

His Ala Ile Asp Trp Val Thr Val Asn His Pro Leu Asp Lys Lys Asn
        130   135   140

Ala Ile Val Val Val Ala Asp Ile Ala Ile Tyr Glu Glu Gly Pro Ala
145   150   155   160

Arg Cys Thr Gly Gly Ala Gly Ala Ile Ala Phe Leu Ile Cys Pro Asp
                165   170   175

Ala Ser Ile Pro Ile Asp Arg Gln Phe Ser Ala Cys His Met Lys Asn
                180   185   190

Thr Trp Asp Phe Phe Lys Pro Ile Thr Pro Ile Pro Ser Glu Tyr Pro
                195   200   205

25156216   - 514 -

```
Val Val Asp Gly Ser Leu Ser Leu Ser Ser Tyr Leu Glu Ala Val Arg
    210             215             220

Met Thr Tyr Thr Tyr Phe Ile Ser Lys Val Asn Arg His Thr Thr Gly
225             230             235                 240

Ile Asp Gly Leu Asn Ser Phe Asp Gly Val Phe Leu His Ser Pro Phe
            245             250             255

Thr Lys Met Val Gln Lys Gly Leu Ala Val Met Asn Tyr Thr Asp Ser
            260             265             270

Gln Leu Arg His Lys Gln Leu Asn Gly Asn Gly Val Asp His Lys Leu
        275             280             285

Asp Glu Asn Asp Arg Ala Gly Leu Ala Lys Met Ile Glu Leu Ser Ala
    290             295             300

Gln Val Trp Lys Glu Lys Thr Asp Pro Tyr Leu Val Phe Asn Arg Arg
305             310             315             320

Ile Gly Asn Met Tyr Thr Pro Ser Leu Phe Ala Gln Leu Leu Ala Tyr
            325             330             335

Leu Ala Ala Asp Asp Cys Val Thr Gly Glu Lys Ser Ile Leu Phe Phe
            340             345             350

Ala Tyr Gly Ser Gly Leu Ala Ser Ala Ile Phe Pro Gly Arg Val Arg
        355             360             365

Gln Thr Ser Asn Leu Asp Lys Ile Arg Gln Val Ala Ile Arg Ala Ile
    370             375             380

Lys Arg Leu Asp Asp Arg Ile Gln Phe Thr Pro Glu Glu Phe Thr Glu
385             390             395             400

Thr Leu Gln Lys Arg Glu Val Phe Leu Arg Ser Lys Glu Ile Pro Lys
            405             410             415

Ser Pro Ser Glu Thr Ser Leu Phe Pro Asn Thr Tyr Phe Leu Asp Asn
            420             425             430

Met Asp Lys Leu Tyr Arg Arg Ser Tyr Thr Leu His Glu Glu Pro Asn
            435             440             445
```

Gly Val Gln Asn Gly Asn Gly Ile His His
    450   455

<210>   295
<211>   461
<212>   PRT
<213>   Arabidopsis thaliana

<400>   295

Met Ala Lys Asn Val Gly Ile Leu Ala Met Asp Ile Tyr Phe Pro Pro
1   5   10   15

Thr Cys Val Gln Gln Glu Ala Leu Glu Ala His Asp Gly Ala Ser Lys
            20   25   30

Gly Lys Tyr Thr Ile Gly Leu Gly Gln Asp Cys Leu Ala Phe Cys Thr
            35   40   45

Glu Leu Glu Asp Val Ile Ser Met Ser Phe Asn Ala Val Thr Ser Leu
    50   55   60

Phe Glu Lys Tyr Lys Ile Asp Pro Asn Gln Ile Gly Arg Leu Glu Val
65   70   75   80

Gly Ser Glu Thr Val Ile Asp Lys Ser Lys Ser Ile Lys Thr Phe Leu
                85   90   95

Met Gln Leu Phe Glu Lys Cys Gly Asn Thr Asp Val Glu Gly Val Asp
            100   105   110

Ser Thr Asn Ala Cys Tyr Gly Gly Thr Ala Ala Leu Leu Asn Cys Val
            115   120   125

Asn Trp Val Glu Ser Asn Ser Trp Asp Gly Arg Tyr Gly Leu Val Ile
    130   135   140

Cys Thr Asp Ser Ala Val Tyr Ala Glu Gly Pro Ala Arg Pro Thr Gly
145   150   155   160

Gly Ala Ala Ala Ile Ala Met Leu Ile Gly Pro Asp Ala Pro Ile Val
                165   170   175

Phe Glu Ser Lys Leu Arg Ala Ser His Met Ala His Val Tyr Asp Phe
            180   185   190

Tyr Lys Pro Asn Leu Ala Ser Glu Tyr Pro Val Val Asp Gly Lys Leu

25156216   - 516 -

Ser Gln Thr Cys Tyr Leu Met Ala Leu Asp Ser Cys Tyr Lys His Leu
   210   215   220

Cys Asn Lys Phe Glu Lys Ile Glu Gly Lys Glu Phe Ser Ile Asn Asp
225   230   235   240

Ala Asp Tyr Ile Val Phe His Ser Pro Tyr Asn Lys Leu Val Gln Lys
          245   250   255

Ser Phe Ala Arg Leu Leu Tyr Asn Asp Phe Leu Arg Asn Ala Ser Ser
          260   265   270

Ile Asp Glu Ala Ala Lys Glu Lys Phe Thr Pro Tyr Ser Ser Leu Thr
          275   280   285

Leu Asp Glu Ser Tyr Gln Ser Arg Asp Leu Glu Lys Val Ser Gln Gln
   290   295   300

Ile Ser Lys Pro Phe Tyr Asp Ala Lys Val Gln Pro Thr Thr Leu Ile
305   310   315   320

Pro Lys Glu Val Gly Asn Met Tyr Thr Ala Ser Leu Tyr Ala Ala Phe
          325   330   335

Ala Ser Leu Ile His Asn Lys His Asn Asp Leu Ala Gly Lys Arg Val
          340   345   350

Val Met Phe Ser Tyr Gly Ser Gly Ser Thr Ala Thr Met Phe Ser Leu
          355   360   365

Arg Leu Asn Asp Asn Lys Pro Pro Phe Ser Ile Ser Asn Ile Ala Ser
   370   375   380

Val Met Asp Val Gly Gly Lys Leu Lys Ala Arg His Glu Tyr Ala Pro
385   390   395   400

Glu Lys Phe Val Glu Thr Met Lys Leu Met Glu His Arg Tyr Gly Ala
          405   410   415

Lys Asp Phe Val Thr Thr Lys Glu Gly Ile Ile Asp Leu Leu Ala Pro
          420   425   430

Gly Thr Tyr Tyr Leu Lys Glu Val Asp Ser Leu Tyr Arg Arg Phe Tyr
          435   440   445

```
Gly Lys Lys Gly Glu Asp Gly Ser Val Ala Asn Gly His
    450             455             460


<210>  296
<211>  508
<212>  PRT
<213>  HUMAN

<400>  296

Met Gln Arg Leu Leu Thr Pro Val Lys Arg Ile Leu Gln Leu Thr Arg
1               5               10              15


Ala Val Gln Glu Thr Ser Leu Thr Pro Ala Arg Leu Leu Pro Val Ala
            20              25              30


His Gln Arg Phe Ser Thr Ala Ser Ala Val Pro Leu Ala Lys Thr Asp
        35              40              45


Thr Trp Pro Lys Asp Val Gly Ile Leu Ala Leu Glu Val Tyr Phe Pro
    50              55              60


Ala Gln Tyr Val Asp Gln Thr Asp Leu Glu Lys Tyr Asn Asn Val Glu
65              70              75              80


Ala Gly Lys Tyr Thr Val Gly Leu Gly Gln Thr Arg Met Gly Phe Cys
                85              90              95


Ser Val Gln Glu Asp Ile Asn Ser Leu Cys Leu Thr Val Val Gln Arg
            100             105             110


Leu Met Glu Arg Ile Gln Leu Pro Trp Asp Ser Val Gly Arg Leu Glu
        115             120             125


Val Gly Thr Glu Thr Ile Ile Asp Lys Ser Lys Ala Val Lys Thr Val
    130             135             140


Leu Met Glu Leu Phe Gln Asp Ser Gly Asn Thr Asp Ile Glu Gly Ile
145             150             155             160


Asp Thr Thr Asn Ala Cys Tyr Gly Gly Thr Ala Ser Leu Phe Asn Ala
            165             170             175


Ala Asn Trp Met Glu Ser Ser Ser Trp Asp Gly Arg Tyr Ala Met Val
            180             185             190
```

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Val Cys Gly Asp Ile Ala Val Tyr Pro Ser Gly Asn Ala Arg Pro Thr
        195             200             205

Gly Gly Ala Gly Ala Val Ala Met Leu Ile Gly Pro Lys Ala Pro Leu
        210             215             220

Ala Leu Glu Arg Gly Leu Arg Gly Thr His Met Glu Asn Val Tyr Asp
225             230             235             240

Phe Tyr Lys Pro Asn Leu Ala Ser Glu Tyr Pro Ile Val Asp Gly Lys
                245             250             255

Leu Ser Ile Gln Cys Tyr Leu Arg Ala Leu Asp Arg Cys Tyr Thr Ser
            260             265             270

Tyr Arg Lys Lys Ile Gln Asn Gln Trp Lys Gln Ala Gly Ser Asp Arg
        275             280             285

Pro Phe Thr Leu Asp Asp Leu Gln Tyr Met Ile Phe His Thr Pro Phe
        290             295             300

Cys Lys Met Val Gln Lys Ser Leu Ala Arg Leu Met Phe Asn Asp Phe
305             310             315             320

Leu Ser Ala Ser Ser Asp Thr Gln Thr Ser Leu Tyr Lys Gly Leu Glu
            325             330             335

Ala Phe Gly Gly Leu Lys Leu Glu Asp Thr Tyr Thr Asn Lys Asp Leu
        340             345             350

Asp Lys Ala Leu Leu Lys Ala Ser Gln Asp Met Phe Asp Lys Lys Thr
        355             360             365

Lys Ala Ser Leu Tyr Leu Ser Thr His Asn Gly Asn Met Tyr Thr Ser
        370             375             380

Ser Leu Tyr Gly Cys Leu Ala Ser Leu Leu Ser His His Ser Ala Gln
385             390             395             400

Glu Leu Ala Gly Ser Arg Ile Gly Ala Phe Ser Tyr Gly Ser Gly Leu
            405             410             415

Ala Ala Ser Phe Phe Ser Phe Arg Val Ser Gln Asp Ala Ala Pro Gly
        420             425             430

Ser Pro Leu Asp Lys Leu Val Ser Ser Thr Ser Asp Leu Pro Lys Arg
```

Leu Ala Ser Arg Lys Cys Val Ser Pro Glu Glu Phe Thr Glu Ile Met
    450   455   460

Asn Gln Arg Glu Gln Phe Tyr His Lys Val Asn Phe Ser Pro Pro Gly
465   470   475   480

Asp Thr Asn Ser Leu Phe Pro Gly Thr Trp Tyr Leu Glu Arg Val Asp
            485   490   495

Glu Gln His Arg Arg Lys Tyr Ala Arg Arg Pro Val
            500   505

<210> 297
<211> 455
<212> PRT
<213> Blattella germanica

<400> 297

Met Ala His Trp Pro Glu Asp Val Gly Ile Ile Gly Ile Glu Met Ile
1   5   10   15

Phe Pro Ser Leu Tyr Val Asp Gln Ala Glu Leu Glu Thr Tyr Asp Glu
            20   25   30

Val Ser Pro Gly Lys Tyr Thr Met Gly Leu Gly Gln Asp Lys Met Gly
            35   40   45

Val Cys Thr Asp Arg Glu Asp Ile Asn Ser Leu Cys Leu Thr Ala Val
    50   55   60

Asp Lys Leu Met Glu Arg Asn Asn Ile Asp Tyr Asn Asp Ile Gly Trp
65   70   75   80

Leu Glu Val Gly Thr Glu Thr Ile Leu Asp Lys Val Lys Ser Val Lys
            85   90   95

Thr Val Leu Met Gln Leu Phe Glu Glu Ser Gly Asn Thr Asp Val Glu
            100   105   110

Gly Ile Asp Thr Ile Asn Ala Cys Tyr Arg Gly Thr Ala Ala Leu Phe
            115   120   125

Asn Ala Leu Ile Trp Ile Glu Ser Ser Ser Trp Asp Gly Arg Tyr Ala
    130   135   140

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Ile Val Val Ala Ala Asp Ile Ala Ile Tyr Ala Lys Glu Cys Ser Pro
145             150             155             160

Thr Gly Gly Ala Gly Ala Leu Leu Met Leu Ile Gly Ala Asn Ala Pro
            165             170             175

Ile Val Ile Asp Arg Gly Val Arg Ala Ser His Met Lys His Ala Tyr
            180             185             190

Asp Phe Tyr Lys Pro Asp Leu Met Ser Glu Tyr Pro Val Val Asp Gly
        195             200             205

Lys Leu Ser Val Gln Cys Tyr Leu Ser Ala Leu Asp His Cys Tyr Pro
    210             215             220

Arg Phe Cys Ser Lys Thr Glu Lys Tyr Leu Lys Arg Cys Gly Lys Glu
225             230             235             240

Asn Thr Lys Ile Asp Leu Asp Tyr Phe Asp Ala Phe Val Phe His Ser
            245             250             255

Pro Tyr Cys Lys Leu Val Gln Lys Ser Val Ala Arg Leu Val Leu Asn
            260             265             270

Asp Phe Ile Gln Tyr Pro Glu Lys Tyr Gln Asp Leu Gln Gln Leu Arg
        275             280         ·   285

Asn Leu Lys Phe Glu Asp Thr Tyr Phe Asp Arg Asp Ile Glu Lys Ile
    290             295             300

Phe Met Asp Lys Ser Lys Gln Leu Phe Glu Lys Lys Thr Lys Pro Ser
305             310             315             320

Leu Met Leu Ala Asn Gln Val Gly Asn Met Tyr Thr Thr Ser Leu Tyr
            325             330             335

Gly Gly Leu Val Ser Leu Leu Ile Ser Glu Asp Ile Gly Glu Leu Ala
            340             345             350

Gly Lys Cys Ile Cys Met Phe Ser Tyr Gly Ser Gly Phe Ala Ala Ser
            355             360             365

Met Phe Ser Leu His Ile Ser Thr Asp Ser Ser Pro Gly Ser Thr Leu
    370             375             380
```

Ser Arg Leu Val Thr Asn Leu Thr His Ile Lys Pro Gln Val Gln Gln
385   390   395   400

Arg Val Lys Leu Ser Pro Gly Glu Phe Glu Asn Ile Met Glu Ile Arg
                405   410   415

Glu Gln Asn His His Lys Ala Pro Tyr Thr Pro Val Ala Ser Pro Asn
            420   425   430

Thr Leu Phe Pro Gly Thr Trp Tyr Leu Glu Ser Ile Asp Ser Met His
            435   440   445

Arg Arg Lys Tyr Lys Arg Val
        450   455

<210> 298
<211> 453
<212> PRT
<213> Blattella germanica

<400> 298

Met Trp Pro Ser Asp Val Gly Ile Val Ala Leu Glu Leu Ile Phe Pro
1   5   10   15

Ser Gln Tyr Val Asp Gln Val Asp Leu Glu Val Tyr Asp Asn Val Ser
            20   25   30

Ala Gly Lys Tyr Thr Val Gly Leu Gly Gln Ala Arg Met Gly Phe Cys
        35   40   45

Thr Asp Arg Glu Asp Ile Asn Ser Leu Cys Leu Thr Val Val Ser Arg
        50   55   60

Leu Met Glu Arg Trp Ser Ile Pro Tyr Ser Gln Ile Gly Arg Leu Glu
65   70   75   80

Val Gly Thr Glu Thr Leu Leu Asp Lys Ser Lys Ser Val Lys Thr Val
                85   90   95

Leu Met Gln Leu Phe Lys Asp Asn Thr Asp Ile Glu Gly Val Asp Thr
            100   105   110

Val Asn Ala Cys Tyr Gly Gly Thr Ser Ala Leu Phe Asn Ala Ile Ser
            115   120   125

Trp Val Glu Ser Ser Ser Trp Asp Gly Arg Tyr Ala Leu Val Val Ala
        130   135   140

25156216   - 522 -

Gly Asp Ile Ala Val Tyr Ala Lys Gly Ser Ala Arg Pro Thr Gly Gly
145   150   155   160

Ala Gly Ala Val Ala Met Leu Val Gly Ala Asn Ala Pro Leu Val Phe
            165   170   175

Asp Arg Gly Val Arg Ser Ser His Met Gln His Ala Tyr Asp Phe Tyr
            180   185   190

Lys Pro Asp Leu Ser Ser Leu Tyr Pro Thr Val Asp Gly Lys Leu Ser
            195   200   205

Ile Gln Cys Tyr Leu Ser Ala Leu Asp His Cys Tyr Gln Leu Tyr Cys
    210   215   220

Ser Lys Ile Gln Lys Gln Leu Gly Glu Lys Phe Asp Ile Glu Arg Leu
225   230   235   240

Asp Ala Val Leu Phe His Ala Pro Tyr Cys Lys Leu Val Gln Lys Ser
            245   250   255

Leu Ala Arg Leu Val Leu Asn Asp Phe Val Arg Ala Ser Glu Glu Glu
            260   265   270

Arg Thr Thr Lys Tyr Ser Ser Leu Glu Ala Leu Lys Gly Val Lys Leu
    275   280   285

Glu Asp Thr Tyr Phe Asp Arg Glu Val Glu Lys Ala Val Met Thr Tyr
    290   295   300

Ser Lys Asn Met Phe Glu Glu Lys Thr Lys Pro Ser Leu Leu Leu Ala
305   310   315   320

Asn Gln Val Gly Asn Met Tyr Thr Pro Ser Leu Tyr Gly Gly Leu Val
            325   330   335

Ser Leu Leu Val Ser Lys Ser Ala Gln Glu Leu Ala Gly Lys Arg Val
            340   345   350

Ala Leu Phe Ser Tyr Gly Ser Gly Leu Ala Ser Ser Met Phe Ser Leu
            355   360   365

Arg Ile Ser Ser Asp Ala Ser Ala Lys Ser Ser Leu Gln Arg Leu Val
    370   375   380

Ser Asn Leu Ser His Ile Lys Pro Gln Leu Asp Leu Arg His Lys Val
385   390   395   400

Ser Pro Glu Glu Phe Ala Gln Thr Met Glu Thr Arg Glu His Asn His
                405   410   415

His Lys Ala Pro Tyr Thr Pro Glu Gly Ser Ile Asp Val Leu Phe Pro
            420   425   430

Gly Thr Trp Tyr Leu Glu Ser Val Asp Ser Leu Tyr Arg Arg Ser Tyr
            435   440   445

Lys Gln Val Pro Gly
    450

<210> 299
<211> 593
<212> PRT
<213> Camptotheca acuminata

<400> 299

Met Asp Val Arg Arg Arg Ser Ile Asn Ser Ile His Gln Ile Pro Ser
1   5   10   15

Val Gly Gly Thr Ala Pro Pro Met Leu Lys Pro Lys Gln Pro Thr Lys
            20   25   30

Val Asp Ala Val Asp Leu Pro Asp Ser Pro Lys Ala Ser Asp Ala Leu
            35   40   45

Pro Leu Pro Leu Tyr Ile Thr Asn Gly Val Phe Phe Thr Leu Phe Phe
    50   55   60

Thr Val Val Tyr Tyr Leu Leu Val Arg Trp Arg Glu Lys Ile Arg Asn
65   70   75   80

Ser Thr Pro Leu His Val Val Thr Leu Ser Glu Ile Ala Ala Ile Phe
            85   90   95

Thr Phe Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly Ile Gly
            100   105   110

Leu Val Gln Pro Phe Thr Ser Arg Ser Ser His Asp Asp Val Trp Gly
            115   120   125

Val Asp Asp Asp Glu Asp Val Asp Glu Ile Val Leu Lys Glu Asp Thr

25156216   - 524 -

Arg Thr Val Pro Cys Ala Ala Ala Pro Val Asp Cys Pro Leu Pro Pro
145   150   155   160

Ile Lys Pro Lys Val Val Asp Pro Val Pro Ile Ser Pro Pro Ser Ser
            165   170   175

Glu Glu Asp Glu Glu Ile Ile Lys Ser Val Val Glu Gly Thr Thr Pro
            180   185   190

Ser Tyr Ala Leu Glu Ser Lys Leu Gly Asp Ser His Arg Ala Ala Ala
            195   200   205

Ile Arg Arg Glu Ala Leu Gln Arg Met Thr Lys Lys Ser Leu Ala Gly
            210   215   220

Leu Pro Leu Asp Gly Phe Asp Tyr Asp Ser Ile Leu Gly Gln Cys Cys
225   230   235   240

Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro
            245   250   255

Leu Leu Leu Asp Gly Arg Glu Tyr Ser Val Pro Met Ala Thr Thr Glu
            260   265   270

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Phe Ala
            275   280   285

Cys Gly Gly Ala Thr Ser Val Leu Leu Arg Asp Ala Met Thr Arg Ala
            290   295   300

Pro Val Val Arg Phe Gly Ser Ala Lys Arg Ala Ala Asp Leu Lys Phe
305   310   315   320

Phe Leu Glu Asn Pro Leu Asn Phe Glu Thr Leu Ala Ala Val Phe Asn
            325   330   335

Ser Ser Ser Arg Phe Gly Lys Leu Gln Asn Ile Lys Cys Ala Ile Ala
            340   345   350

Gly Lys Asn Leu Tyr Met Arg Tyr Ser Cys Ser Thr Gly Asp Ala Met
            355   360   365

Gly Met Asn Met Ile Ser Lys Gly Val Gln Asn Val Leu Asp Phe Leu
            370   375   380

Gln Asp Asp Phe Pro Asp Met Asp Val Ile Gly Ile Ser Gly Asn Tyr
385   390   395   400

Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly
            405   410   415

Lys Ser Val Val Cys Glu Ala Val Ile Lys Glu Glu Val Val Lys Lys
            420   425   430

Val Leu Lys Thr Asn Val Ala Ser Leu Val Glu Leu Asn Met Leu Lys
            435   440   445

Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly Phe Asn Ala
        450   455   460

His Ala Ser Asn Ile Val Ser Ala Val Tyr Leu Ala Thr Gly Gln Asp
465   470   475   480

Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Met Glu Ala
            485   490   495

Ile Asn Asp Gly Lys Asp Leu His Val Ser Val Thr Met Pro Ser Ile
            500   505   510

Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala
        515   520   525

Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Ser Lys Glu Ala Pro Gly
    530   535   540

Ser Asn Ala Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala
545   550   555   560

Gly Glu Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val Asn
            565   570   575

Ser His Met Lys Tyr Asn Arg Ser Asn Lys Asp Val Thr Lys Ala Ser
            580   585   590

Ser

<210> 300
<211> 602
<212> PRT

25156216   - 526 -

<213> Lycopersicon esculentum

<400> 300

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Met Asp Val Arg Arg Arg Ser Glu Glu Pro Val Tyr Pro Ser Lys Val
1               5               10              15

Phe Ala Ala Asp Glu Lys Pro Leu Lys Pro His Lys Lys Gln Gln Gln
            20              25              30

Gln Gln Glu Asp Lys Asn Thr Leu Leu Ile Asp Ala Ser Asp Ala Leu
        35              40              45

Pro Leu Pro Leu Tyr Leu Thr Thr Asn Gly Leu Phe Phe Thr Met Phe
    50              55              60

Phe Ser Val Met Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg
65              70              75              80

Asn Ser Thr Pro Leu His Val Val Thr Leu Ser Glu Leu Gly Ala Ile
            85              90              95

Val Ser Leu Ile Ala Ser Val Ile Tyr Leu Leu Gly Phe Phe Gly Ile
            100             105             110

Gly Phe Val Gln Thr Phe Val Ser Arg Gly Asn Asn Asp Ser Trp Asp
        115             120             125

Glu Asn Asp Glu Glu Phe Leu Leu Lys Glu Asp Ser Arg Cys Gly Pro
    130             135             140

Ala Thr Thr Leu Gly Cys Ala Val Pro Ala Pro Pro Ala Arg Gln Ile
145             150             155             160

Ala Pro Met Ala Pro Pro Gln Pro Ser Met Ser Met Val Glu Lys Pro
            165             170             175

Ala Pro Leu Ile Thr Ser Ala Ser Ser Gly Glu Asp Glu Glu Ile Ile
            180             185             190

Lys Ser Val Val Gln Gly Lys Ile Pro Ser Tyr Ser Leu Glu Ser Lys
        195             200             205

Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Lys Glu Val Met Gln
    210             215             220

Arg Ile Thr Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly Phe Asn
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25156216   - 527 -

Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val
                245   250   255

Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Lys Glu
            260   265   270

Phe Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
            275   280   285

Asn Arg Gly Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Cys Ile
    290   295   300

Leu Leu Arg Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe Gly Thr
305   310   315   320

Ala Lys Arg Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro Ile Lys
            325   330   335

Phe Glu Ser Leu Ala Asn Val Phe Asn Gln Ser Ser Arg Phe Ala Arg
            340   345   350

Leu Gln Arg Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr Met Arg
            355   360   365

Leu Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys
    370   375   380

Gly Val Gln Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Pro Asp Met
385   390   395   400

Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala
            405   410   415

Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala
            420   425   430

Ile Ile Thr Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu Val Ala
            435   440   445

Ala Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met
    450   455   460

Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser
465   470   475   480

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Ala Val Phe Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser
            485             490             495

Ser His Cys Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu
            500             505             510

His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly
            515             520             525

Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val
        530             535             540

Lys Gly Ala Asn Arg Glu Ala Pro Gly Ser Asn Ala Arg Leu Leu Ala
545             550             555             560

Thr Val Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser
            565             570             575

Ala Ile Ser Ser Gly Gln Leu Val Asn Ser His Met Lys Tyr Asn Arg
            580             585             590

Ser Thr Lys Asp Val Thr Lys Ala Ser Ser
        595             600


<210>    301
<211>    481
<212>    PRT
<213>    Dictyostelium discoideum

<400>    301

Lys Gly Lys Ser Val Asn Val Glu Asp Leu Lys Asp Gln Glu Ile Ile
1               5               10              15

Ala Leu Val Asp Lys Gly Glu Ile Gln Pro His Asn Leu Glu Thr Arg
            20              25              30

Leu Pro Asn Asn Phe Gln Arg Ala Val His Ile Arg Arg Lys Leu Leu
        35              40              45

Ala Arg Asp Leu Gln Lys Glu His Gln Arg Ala Leu His Ala Gln Ala
    50              55              60

Val Val Ala Ala Ala Glu Lys Ala Ala Thr Ser Gly Glu Asp Pro Ser
65              70              75              80
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Ser Ile Gln Pro Val Val Pro Pro Thr Ser Asn Leu Asp Phe Glu Gly
            85          90              95

Ser Leu Thr Asn Leu Pro Val Asp His Phe Asp Tyr Thr Lys Val Leu
            100         105             110

Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Ile Pro Ile Pro Val Gly
            115         120             125

Val Ala Gly Pro Ile Leu Leu Asp Gly Lys Leu Val Ser Ile Pro Met
    130             135             140

Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr His Arg Gly Ala Lys
145             150             155             160

Ala Ile Thr Lys Ser Gly Gly Ala Lys Thr Val Leu Leu Gln Ser Gly
            165             170             175

Met Thr Arg Ala Pro Val Cys Arg Leu Pro Ser Ser Ile Arg Ala Gly
            180             185             190

Glu Leu Lys Gln Trp Ile Glu Asn Gln Glu Asn Phe Tyr Gln Val Ala
            195             200             205

Ser Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu Lys Ser Ile Lys
    210             215             220

Val Val Ile Ala Gly Arg Leu Val Tyr Leu Arg Phe Lys Ser Ser Thr
225             230             235             240

Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Glu Lys Ala
            245             250             255

Leu Glu Val Ile Thr Glu Tyr Phe Pro Glu Met Glu Val Leu Ser Leu
            260             265             270

Ser Gly Asn Val Cys Thr Asp Lys Lys Pro Ser Ser Ile Asn Trp Leu
            275             280             285

Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Val Ile Ser Gly Asp
    290             295             300

Ile Val Arg Asp Val Leu Lys Thr Thr Val Glu Ala Leu Val Ser Leu
305             310             315             320

Asn Ile Asp Lys Asn Leu Ile Gly Ser Ala Met Ala Gly Ser Ile Gly
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- 530 -

Gly Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala Leu Tyr Ile Ala
            340   345   350

Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser Asn Cys Ile Thr
            355   360   365

Leu Met Glu Ser Ile Asn Gly Gly Lys Asp Leu Tyr Ile Ser Val Thr
            370   375   380

Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr His Leu Pro
385   390   395   400

Ala Gln Ser Ala Cys Leu Asp Leu Leu Lys Ile Arg Gly Ala Asn Leu
                405   410   415

Glu Arg Pro Gly Ala Asn Ser Glu Gln Leu Ala Arg Val Val Ala Ala
            420   425   430

Ala Val Leu Ser Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly
            435   440   445

His Leu Val Arg Ser His Leu Lys His Asn Arg Lys Thr Glu Ala Pro
    450   455   460

Ala Pro Gln Ala Asp Thr Ile Ser Met Thr His Asn Leu Pro His Ser
465   470   475   480

Asp

<210>   302
<211>   552
<212>   PRT
<213>   Dictyostelium discoideum

<400>   302

Met Leu Phe Ala Pro Pro Asn Leu Glu Thr Lys Glu Leu Phe Trp Ile
1   5   10   15

Ile Tyr Ile Leu Ile Leu Ile Pro Lys Val Phe Ala Lys Val Met Ser
            20   25   30

Val Arg Glu Leu Phe Pro Phe Phe Lys Trp Gly Phe Asn Ile Arg Arg
            35   40   45

Ser Asn Phe Leu Val Pro Ile Leu Ser Asn Asn Val Ile Val Thr Gly
    50   55   60

Glu Glu Ala Val Gln Tyr Glu Lys Pro Leu Pro Tyr Ile Pro Gln His
65   70   75   80

Asn Gln Gln Gln Gln Gln Lys Gln Gln Pro Ser Gln Asp Tyr Ile Gln
                85   90   95

Gln Pro Gln Asn Asp Asn Asn Ile Asn Ser Gly Lys Glu Gln Glu Gln
            100   105   110

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Thr Pro Asp Ile Thr Asn
            115   120   125

Gln Pro Thr Lys Thr Asn Lys Lys Ile Pro Ile Lys Glu Leu Ser Asn
    130   135   140

Glu Glu Ile Leu Ile Lys Leu Glu Lys Gly Glu Val Leu Ala Tyr Arg
145   150   155   160

Leu Glu Asn Glu Leu Gly Asp Cys Ser Arg Ala Val Glu Ile Arg Arg
            165   170   175

Met Leu Leu Glu Lys Gln Leu Ser Lys Lys Ile Glu Pro Ile Pro His
            180   185   190

Glu Gly Phe Asp Phe Ala Lys Val Gln Gly Gln Cys Cys Glu Asn Val
            195   200   205

Ile Gly Tyr Val Pro Ile Pro Val Gly Thr Ala Gly Pro Ile Gln Leu
    210   215   220

Asn Gly Gln Leu Val Thr Ile Pro Met Ala Thr Thr Glu Gly Cys Leu
225   230   235   240

Val Ala Ser Thr His Arg Gly Cys Lys Ala Ile Thr Glu Ser Gly Gly
            245   250   255

Ala Lys Cys Thr Ile Thr Ser Arg Gly Met Thr Arg Ala Pro Val Val
            260   265   270

Arg Phe Ser Asp Ile Val Lys Ala Ser Glu Phe Val Ser Trp Ile Asn
    275   280   285

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Asp Thr Asp Asn Tyr Gln Ala Leu Lys Ala Val Phe Asp Ser Thr Ser
    290             295             300

Arg Phe Ala Arg Leu Ser Ala Ile Lys Cys Thr Ile Ala Gly Arg Ser
305             310             315             320

Val Tyr Ile Arg Phe Lys Cys Asp Thr Gly Asp Ala Met Gly Met Asn
                325             330             335

Met Val Ser Lys Gly Val Glu Ala Val Leu Glu His Leu Lys Ile Ile
            340             345             350

Phe Asp Asp Met Thr Leu Leu Ser Ile Ser Gly Asn Met Cys Thr Asp
        355             360             365

Lys Lys Pro Ser Ser Ile Asn Trp Thr Glu Gly Arg Gly Arg Ser Val
    370             375             380

Val Cys Glu Ala Met Ile Thr Gly Asp Val Val Gln Arg Val Leu Lys
385             390             395             400

Thr Asn Val Gln Ala Leu Val Asp Leu Asn Ile Ala Lys Asn Leu Ile
            405             410             415

Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Phe Asn Ala His Ala Ser
        420             425             430

Asn Ile Val Thr Ala Ile Phe Leu Ala Thr Gly Gln Asp Cys Ala Gln
    435             440             445

Asn Val Glu Ser Ser Asn Cys Ile Thr Gln Met Glu Ala Cys Asn Asp
    450             455             460

Gly Gln Asp Leu Tyr Ile Thr Val Thr Met Pro Ser Ile Glu Val Gly
465             470             475             480

Thr Val Gly Gly Gly Thr Ser Leu Pro Ala Gln Ser Ala Cys Leu Asp
            485             490             495

Ile Ile Gly Val Lys Gly Ser Ser Ser Lys Pro Gly Ala Asn Ala
        500             505             510

Asp Gln Leu Ala Lys Thr Ile Ala Ser Ala Val Met Ala Gly Glu Leu
    515             520             525

Ser Leu Met Ser Ala Leu Ser Ala Gly His Leu Met Lys Ser His Leu
```

Gln Tyr Asn Arg Ala Lys Thr Asn
545   550

<210> 303
<211> 224
<212> PRT
<213> Mus musculus

<400> 303

Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro Asp Met Gln Ile
1   5   10   15

Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile
                    20   25   30

Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys Glu Ala Val Ile
            35   40   45

Pro Ala Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met
    50   55   60

Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly
65   70   75   80

Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile
                    85   90   95

Tyr Ile Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn
                    100   105   110

Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr
            115   120   125

Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val Gly Gly Gly
    130   135   140

Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu Gly Val Gln
145   150   155   160

Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln Leu Ala Arg
                    165   170   175

Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala
            180   185   190

```
Leu Ala Ala Gly His Leu Val Arg Ser His Met Val His Asn Arg Ser
        195                 200             205

Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr Lys Lys Ala Ala
        210                 215             220


<210>  304
<211>  883
<212>  PRT
<213>  Xenopus laevis

<400>  304

Met Leu Ser Arg Leu Phe Arg Met His Gly Gln Phe Val Ala Ser His
1                5                10                 15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
            20              25              30

Ser Met Asn Met Phe Thr Gly Asn Asp Lys Ile Cys Gly Trp Asn Tyr
        35              40              45

Ala Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
        50              55              60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65              70              75                      80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
                85              90              95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
            100             105             110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
        115             120             125

Leu Leu Leu Ile Asp Leu Ser Lys Ala Ser Ala Leu Ala Lys Phe Ala
        130             135             140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Asp Asn Ile Ala Arg Gly
145             150             155             160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Glu Ala Leu Val Glu Cys
            165             170             175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
```

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Ala Phe
        195   200   205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
    210   215   220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser Gln Phe Ala Ser
225   230   235   240

Val Leu Glu Glu Glu Glu Asp Asn Lys Pro Asn Pro Val Thr Gln Arg
                245   250   255

Val Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser
            260   265   270

Arg Trp Ile Ser Glu Pro Ser Ser Gln Asn Ser Thr Ser Ile Ser Asp
        275   280   285

His Glu Val Thr Thr Met Leu Asp Asp Met Met Pro Lys Arg Val Glu
    290   295   300

Pro Ser Met Pro Leu Trp Gln Phe Tyr Leu Ser Arg Met Val Thr Met
305   310   315   320

Asp Val Glu Gln Ile Ile Thr Leu Gly Leu Ala Leu Leu Leu Ala Val
            325   330   335

Lys Tyr Ile Phe Phe Glu Gln Thr Glu Thr Glu Ser Thr Phe Ser Met
            340   345   350

Lys Asn Pro Ile Ile Ser Pro Val Ala Val Gln Lys Lys Gln Ile Glu
        355   360   365

Ser Cys Cys Arg Arg Glu Pro Glu Gln Glu Lys Thr Val His Val Ser
    370   375   380

Thr Thr Glu Glu Ala Ser Ser Lys Glu Glu Thr Glu Ala Val Ile Lys
385   390   395   400

Pro Leu Pro Leu Glu Thr Ser Pro Lys Ala Lys Phe Ile Val Gly Asp
            405   410   415

Ser Ser Pro Leu Glu Leu Ser Pro Glu Asp Lys Asn Thr Met Phe Asp
        420   425   430

```
Leu Pro Glu Glu Pro Arg Pro Leu Asp Glu Cys Val Arg Ile Leu Lys
        435             440             445

Asn Pro Asp Lys Gly Ala Gln Tyr Leu Thr Asp Ala Glu Val Ile Ser
        450             455             460

Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu Glu Thr Met Met
465             470             475             480

Glu Ser Pro Arg Glu Gly Val Ala Ile Arg Arg Gln Met Leu Ser Asp
                485             490             495

Lys Leu Pro Gln Arg Ser Ala Leu Gln Ser Leu Pro Tyr Lys Asn Tyr
                500             505             510

Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
        515             520             525

Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Leu Leu Asn Asn Lys
        530             535             540

Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
545             550             555             560

Thr Asn Arg Gly Cys Arg Ala Ile Met Leu Gly Gly Gly Ala Lys Ser
                565             570             575

Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val Val Arg Leu Pro
        580             585             590

Thr Ala Cys Asp Ala Ala Glu Val Lys Ala Trp Leu Asp Ser Ala Glu
        595             600             605

Gly Phe Lys Val Ile Lys Asp Ala Phe Asp Ser Thr Ser Arg Phe Ala
        610             615             620

Arg Leu Gly Arg Leu Gln Asn Cys Val Ala Gly Arg Asn Leu Tyr Ile
625             630             635             640

Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
                645             650             655

Lys Val Thr Glu Gln Ala Leu Ala Arg Leu Gln Glu Glu Phe Pro Asp
        660             665             670
```

Leu His Val Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro
    675   680   685

Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu
    690   695   700

Ala Ile Ile Pro Ala Lys Val Val Arg Glu Val Leu Lys Ser Ser Thr
705   710   715   720

Glu Ala Leu Val Glu Val Asn Ile Asn Lys Asn Phe Ile Gly Ser Ala
          725   730   735

Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val
        740   745   750

Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly
      755   760   765

Ser Ser Asn Cys Ile Thr Ile Met Glu Ala Thr Gly Pro Thr Tyr Glu
      770   775   780

Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val
785   790   795   800

Gly Gly Gly Thr Asn Leu Ala Pro Gln Gln Ala Cys Leu Gln Met Leu
        805   810   815

Gly Val Gln Gly Ala Ser Thr Glu Thr Pro Gly Lys Asn Ala Cys Gln
        820   825   830

Leu Ala Gln Ile Val Cys Ser Thr Val Met Ala Gly Glu Leu Ser Leu
        835   840   845

Met Ala Ala Leu Ala Ala Gly His Leu Val Lys Ser His Met Val His
    850   855   860

Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Pro Gly Thr Cys Thr Lys
865   870   875   880

Lys Ala Ala

<210> 305
<211> 948
<212> PRT
<213> Schistosoma mansoni

<400> 305

Met	Leu	Lys	Ile	Leu	Asn	Thr	Val	Leu	Leu	Phe	Phe	Asp	Cys	Phe	Ser
1				5					10					15	

Thr	Gly	Thr	Phe	Phe	Val	Leu	Leu	Ile	Tyr	Leu	Phe	Thr	Arg	Leu	Arg
			20					25				30			

Thr	His	Leu	Leu	His	Phe	Ser	Ser	Ser	Asn	Cys	His	Leu	Asp	Val	Ile
		35				40					45				

Ile	Tyr	Gln	Ser	Arg	Ala	Val	Ile	Ile	Phe	Leu	Val	Val	Phe	Val	Tyr
	50				55					60					

Phe	Ile	Gly	Val	Leu	Thr	Cys	Lys	Ile	Asn	Asp	Lys	Ile	Leu	Val	His
65					70					75					80

Thr	Met	Leu	Arg	Asn	Lys	Arg	Gln	Leu	Asn	Thr	Leu	Phe	Tyr	Thr	Leu
				85					90					95	

Ile	Leu	Phe	Thr	Phe	Ala	Leu	Cys	Ser	Leu	Ser	Ser	Val	Leu	Phe	Val
			100					105					110		

Pro	Tyr	Thr	Ser	Phe	Ala	Ile	Phe	Leu	Leu	Ser	Thr	Ser	Val	Phe	Leu
		115					120					125			

Leu	Phe	Ser	Asp	Leu	Ser	Val	Phe	Phe	Ile	Val	Leu	Glu	Tyr	Tyr	Leu
	130					135					140				

Leu	Glu	Ile	Glu	Leu	Val	Asn	Tyr	Glu	His	Ala	Lys	Arg	His	Cys	Leu
145					150					155					160

Leu	Ser	His	Leu	Phe	Ser	Asn	Gln	Leu	Phe	Val	Asp	His	Met	Leu	Gly
			165					170					175		

Met	Phe	Leu	Lys	Thr	Ser	Leu	Phe	Ser	Ile	Ser	Thr	Thr	Ser	Lys	Tyr
			180					185					190		

Ala	Tyr	Leu	Glu	Ser	Ile	Phe	Lys	Cys	Thr	Leu	Met	Glu	Gln	Ile	Ile
		195					200					205			

Tyr	Ile	Met	Ile	Val	Phe	Val	Phe	Leu	Pro	Ser	Phe	Met	Arg	Ile	Phe
	210					215					220				

Ala	Ser	Tyr	Ala	Lys	Arg	Met	Tyr	Gly	Glu	Gln	Lys	Lys	Cys	Leu	Val
225					230					235					240

```
Ser Asn Lys Gly Val Ser Ser Ser Thr Arg Lys Arg Arg His Ser Tyr
            245             250             255

Ser Ser Gly His Ser Tyr Val Glu Tyr Arg Arg Met Ser Val His Asn
            260             265             270

Leu Ile Gly Tyr Val Val Asn Pro Asn Cys His Tyr Lys Cys Trp Ser
            275             280             285

Thr Thr Phe Val Ile Phe Val Ser Leu Ile Ile Leu His Leu Asn Asn
    290             295             300

Arg Tyr Ser Glu Arg Ile Ser Ser Phe Lys His Asn Ser Ser Glu Asn
305             310             315             320

Glu Val Phe Pro Val Leu Tyr His Ile Thr Ala Tyr Glu Val Thr Ser
            325             330             335

Ile Phe His Phe Ile Tyr Asn Ile Phe His Val Ile Asn Ala Asn Leu
            340             345             350

Val Val Tyr Leu Phe Leu Gly Leu Phe Leu Phe Lys Arg Ile Arg Leu
            355             360             365

Asn Lys Pro Ile Asn Ser Gln Leu Arg Asn Leu Asn Ile Pro Lys Ile
    370             375             380

Lys Glu Thr Leu Ile Ser Asp Gln Val Lys Gln Ser Pro Val Leu Pro
385             390             395             400

Lys Phe Ser Lys Lys Leu Asn Asp Ile Pro Leu Gln Ser Arg Lys Arg
            405             410             415

Ile Tyr Cys Leu His Lys Asp Asp Asp Tyr Ile Asp Arg Asn Asp Ser
            420             425             430

Ser Ser Val Ser Thr Phe Ser Asn Thr Cys Lys Asn Ser Asn Glu Arg
            435             440             445

Pro Ser Asn Val Leu Asp Leu Asp Met Leu Thr Glu Lys Ile Lys Gln
    450             455             460

Gly Leu Gly His Glu Leu Ser Asp Thr Glu Ile Leu Gln Leu Leu Ser
465             470             475             480
```

His Gly Arg Leu Lys Thr Arg Glu Leu Glu Ser Val Val Arg Asn Pro
            485   490   495

Phe Arg Ala Val Glu Leu Arg Arg Leu Asp Leu Ser Thr Phe Leu Asn
            500   505   510

Asn Pro His Ile Ile Glu Arg Ile Pro Tyr Lys Asp Tyr Asp Tyr Arg
            515   520   525

Leu Val Tyr Gly Gln Cys Cys Glu Glu Val Ile Gly Tyr Met Pro Ile
            530   535   540

Pro Val Gly Lys Ile Gly Pro Leu Leu Leu Asp Gly Arg Ser His Tyr
545   550   555   560

Ile Pro Leu Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg
            565   570   575

Gly Cys Arg Ala Ile Phe Leu Ala Gly Gly Ile Lys Ser Val Val Tyr
            580   585   590

Arg Asp Gln Met Thr Arg Ala Pro Val Val Trp Phe Pro Ser Ile Ile
            595   600   605

Asp Ser Val Lys Cys Ile Ala Trp Ile Asp Ser Glu Glu Gly Phe Gln
            610   615   620

Thr Leu Lys Ser Ala Phe Asp Lys Thr Ser Ala His Val Asn Leu Leu
625   630   635   640

Ser Val Phe Ala Cys Pro Ala Gly Arg Tyr Ile His Ile Arg Phe Ala
            645   650   655

Ala Arg Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Ala Thr
            660   665   670

Asp Ser Ala Leu His Cys Leu Lys Lys Tyr Phe Ser Asn Met Gln Val
            675   680   685

Ile Ser Leu Ser Gly Asn Met Cys Thr Asp Lys Lys Pro Ala Thr Ile
            690   695   700

Asn Thr Ile Leu Gly Arg Gly Lys Ser Val Ile Ala Glu Ala His Leu
705   710   715   720

```
Ser Ala Asp Val Leu Ala Gln Val Leu His Thr Asn Ala Gln Arg Leu
            725                 730                 735

Ala Arg Leu Thr His Ser Lys Asn Trp Ile Gly Ser Ala Met Ala Gly
            740                 745                 750

Cys Pro Gly Met Met Gly Cys Asn Ala His Ala Ala Asn Ile Ile Ala
            755                 760                 765

Gly Met Phe Ala Ala Thr Gly Gln Asp Leu Ala Gln Val Val Asp Ser
    770                 775                 780

Ser Ser Cys Leu Thr Gln Leu Glu Val Asp Leu Ser Asp Asp Ser Leu
785                 790                 795                 800

Val Ala Ser Val Thr Met Pro Cys Leu Glu Val Gly Thr Val Gly Gly
                805                 810                 815

Gly Thr Arg Leu Ser Gly Gln Arg Ala Cys Leu Asp Leu Leu Asp Leu
            820                 825                 830

Ser Val Asp Arg Pro Thr Glu His Leu Ser Arg Ile Ile Ala Gly Thr
            835                 840                 845

Val Leu Ala Ala Glu Leu Ser Leu Met Ala Ala Leu Asp Thr Asp Asp
    850                 855                 860

Leu Val Lys Ala His Met His Phe Asn Arg Ala Lys Gln Ser Thr Asn
865                 870                 875                 880

Ser His Ser Cys Ser His Ser Thr Thr Thr Asp Asn Asn Asp Asn Ile
            885                 890                 895

Ser Asn Ile Tyr Asp Asn His Asn Val Ala Leu Ser Ser Lys Ile Pro
            900                 905                 910

Val Thr Asp Asn Ser Asp Ile Arg Glu Ser Val His Ser Leu His Val
            915                 920                 925

Lys Pro Phe Pro Val Lys Ser Asp Leu Ser Val Asn Pro Glu Ile Ser
    930                 935                 940

His Tyr Thr Met
945


<210>  306
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<211> 887
<212> PRT
<213> Mesocricetus auratus

<400> 306

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1   5   10   15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
            20   25   30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
        35   40   45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
    50   55   60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65   70   75   80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
            85   90   95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
            100   105   110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
        115   120   125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
    130   135   140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145   150   155   160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
            165   170   175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
            180   185   190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
        195   200   205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
    210   215   220

```
Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225           230           235           240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
            245           250           255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
            260           265           270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
        275           280           285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
    290           295           300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305           310           315           320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
            325           330           335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
            340           345           350

Pro Ile Thr Ser Pro Val Ala Thr Pro Lys Lys Ala Pro Asp Asn Cys
        355           360           365

Cys Arg Arg Glu Pro Val Leu Ser Arg Arg Asn Glu Lys Leu Ser Ser
    370           375           380

Val Glu Glu Glu Pro Gly Val Asn Gln Asp Arg Lys Val Glu Val Ile
385           390           395           400

Lys Pro Leu Val Ala Glu Thr Glu Ser Thr Ser Arg Ala Thr Phe Val
            405           410           415

Leu Gly Ala Ser Gly Gly Cys Ser Pro Val Ala Leu Gly Thr Gln Glu
            420           425           430

Pro Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
        435           440           445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
    450           455           460
```

```
Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465             470             475             480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
                485             490             495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
            500             505             510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
        515             520             525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
    530             535             540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545             550             555             560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
            565             570             575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
        580             585             590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
    595             600             605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
    610             615             620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625             630             635             640

Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
            645             650             655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Val Lys Leu Gln Glu
        660             665             670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
        675             680             685

Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Thr
    690             695             700

Val Val Cys Glu Ala Val Ile Pro Ala Arg Val Val Arg Glu Val Leu
```

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
                725   730   735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
                740   745   750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
                755   760   765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
        770   775   780

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785   790   795   800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
                805   810   815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
                820   825   830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
        835   840   845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
        850   855   860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865   870   875   880

Thr Cys Thr Lys Lys Ala Ala
                885

<210> 307
<211> 916
<212> PRT
<213> Drosophila melanogaster

<400> 307

Met Ile Gly Pro Leu Phe Arg Ala Thr Gln Phe Cys Ala Ser His Pro
1   5   10   15

Trp Glu Val Ile Val Ala Leu Leu Thr Ile Thr Ala Cys Met Leu Asn
                20   25   30

```
Gly Gly Gln Glu Gln Tyr Pro Gly Cys Glu Gln Arg Ile Gly His Ser
        35              40              45

Thr Ala Ser Ala Ala Ala Ala Gly Ser Gly Ser Gly Ala Gly Ser Gly
    50          55              60

Ala Ser Gly Thr Ile Pro Pro Ser Ser Met Gly Gly Ser Ala Thr Ser
65              70              75              80

Ser Arg His Arg Pro Cys His Gly Trp Ser Gln Ser Cys Asp Gly Leu
            85              90              95

Glu Ala Glu Tyr Asn Ala Ala Asp Val Ile Leu Met Thr Ile Val Arg
            100             105             110

Cys Thr Ala Val Leu Tyr Cys Tyr Tyr Gln Phe Cys Ser Leu His Arg
        115             120             125

Leu Gly Ser Lys Tyr Val Leu Gly Ile Ala Gly Leu Phe Thr Val Phe
    130             135             140

Ser Ser Phe Ile Phe Thr Thr Ala Ile Ile Lys Phe Leu Gly Ser Asp
145          .      150             155             160

Ile Ser Glu Leu Lys Asp Ala Leu Phe Phe Leu Leu Leu Val Ile Asp
            165             170             175

Leu Ser Asn Ser Gly Arg Leu Arg Ser Gly Ala Met Gly Ser Asn Gln
            180             185             190

Ala Glu Val Thr Gln Asn Ile Ala Arg Gly Leu Glu Leu Leu Gly Pro
        195             200             205

Ala Ile Ser Leu Asp Thr Ile Val Val Val Leu Leu Val Gly Val Gly
    210             215             220

Thr Leu Ser Gly Val Gln Arg Leu Glu Val Leu Cys Met Phe Ala Val
225             230             235             240

Leu Ser Val Leu Val Asn Tyr Val Val Phe Met Thr Phe Tyr Pro Ala
            245             250             255

Cys Leu Ser Leu Ile Phe Asp Leu Ser Arg Ser Gly Val Asp Met Ser
        260             265             270
```

Val Val Arg Glu Lys Ala Lys Gly Ser Leu Pro Leu Lys Ser Leu Thr
        275   280   285

Glu Glu Glu Gln Lys Ala Asn Pro Val Leu Gln Arg Val Lys Leu Ile
        290   295   300

Met Thr Thr Gly Leu Met Ala Val His Ile Tyr Ser Arg Glu Val Ser
305   310   315   320

Pro Ala Ala Thr Thr Met Val Asp Lys Thr Leu Thr Pro Thr Leu Ser
                325   330   335

Leu Asn Val Ser Asn Asn Arg Thr Glu Ser Gly Glu Ile Ala Asp Ile
            340   345   350

Ile Ile Lys Trp Leu Thr Met Ser Ala Asp His Ile Val Ile Ser Ile
        355   360   365

Val Leu Ile Ala Leu Val Val Lys Phe Ile Cys Phe Asp Asn Arg Asp
    370   375   380

Pro Leu Pro Asp Gln Leu Arg Gln Ser Gly Pro Val Ala Ile Glu Ala
385   390   395   400

Lys Ala Ser Gln Thr Thr Pro Ile Asp Glu Glu His Val Glu Gln Glu
                405   410   415

Lys Asp Thr Glu Asn Ser Ala Ala Val Arg Thr Leu Leu Phe Thr Ile
            420   425   430

Glu Asp Gln Ser Ser Ala Asn Ala Ser Thr Gln Thr Asp Leu Leu Pro
        435   440   445

Leu Arg His Arg Leu Val Gly Pro Ile Lys Pro Pro Arg Pro Val Gln
    450   455   460

Glu Cys Leu Asp Ile Leu Asn Ser Thr Glu Glu Gly Ser Gly Pro Ala
465   470   475   480

Ala Leu Ser Asp Glu Glu Ile Val Ser Ile Val His Ala Gly Gly Thr
            485   490   495

His Cys Pro Leu His Lys Ile Glu Ser Val Leu Asp Asp Pro Glu Arg
        500   505   510

Gly Val Arg Ile Arg Arg Gln Ile Ile Gly Ser Arg Ala Lys Met Pro

Val Gly Arg Leu Asp Val Leu Pro Tyr Glu His Phe Asp Tyr Arg Lys
    530   535   540

Val Leu Asn Ala Cys Cys Glu Asn Val Leu Gly Tyr Val Pro Ile Pro
545   550   555   560

Val Gly Tyr Ala Gly Pro Leu Leu Leu Asp Gly Glu Thr Tyr Tyr Val
            565   570   575

Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Thr Asn Arg Gly
        580   585   590

Cys Lys Ala Leu Ser Val Arg Gly Val Arg Ser Val Val Glu Asp Val
        595   600   605

Gly Met Thr Arg Ala Pro Cys Val Arg Phe Pro Ser Val Ala Arg Ala
    610   615   620

Ala Glu Ala Lys Ser Trp Ile Glu Asn Asp Glu Asn Tyr Arg Val Val
625   630   635   640

Lys Thr Glu Phe Asp Ser Thr Ser Arg Phe Gly Arg Leu Lys Asp Cys
            645   650   655

His Ile Ala Met Asp Gly Pro Gln Leu Tyr Ile Arg Phe Val Ala Ile
        660   665   670

Thr Gly Asp Arg Met Gly Met Asn Met Val Ser Lys Ala Leu Arg Trp
        675   680   685

Pro Phe Ala Glu Phe Thr Leu His Phe Pro Asp Met Gln Ile Ile Ser
    690   695   700

Leu Ser Gly Asn Phe Cys Cys Asp Lys Lys Pro Ala Ala Ile Asn Trp
705   710   715   720

Ile Lys Gly Arg Gly Lys Arg Val Val Thr Glu Cys Thr Ile Ser Ala
            725   730   735

Ala Thr Leu Arg Ser Val Leu Lys Thr Asp Ala Lys Thr Leu Val Glu
        740   745   750

Cys Asn Lys Leu Lys Asn Met Gly Gly Ser Ala Met Ala Gly Ser Ile
        755   760   765

Gly Gly Asn Asn Ala His Ala Ala Asn Met Val Thr Ala Val Phe Leu
    770   775   780

Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Thr Ser Ser Asn Cys Ser
785   790   795   800

Thr Ala Met Glu Cys Trp Ala Glu Asn Ser Glu Asp Leu Tyr Met Thr
            805   810   815

Cys Thr Met Pro Ser Leu Glu Val Gly Thr Val Gly Gly Gly Thr Gly
            820   825   830

Leu Pro Gly Gln Ser Ala Cys Leu Glu Met Leu Gly Val Arg Gly Ala
        835   840   845

His Ala Thr Arg Pro Gly Asp Asn Ala Lys Lys Leu Ala Gln Ile Val
    850   855   860

Cys Ala Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala Leu Val
865   870   875   880

Asn Ser Asp Leu Val Lys Ser His Met Arg His Asn Arg Ser Ser Ile
            885   890   895

Ala Val Asn Ser Ala Asn Asn Pro Leu Asn Val Thr Val Ser Ser Cys
            900   905   910

Ser Thr Ile Ser
        915

<210>   308
<211>   887
<212>   PRT
<213>   Cricetulus griseus

<400>   308

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1   5   10   15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
            20   25   30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
        35   40   45

```
Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
    50              55              60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65              70              75              80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
            85              90              95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
            100             105             110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
            115             120             125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
    130             135             140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145             150             155             160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
            165             170             175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
            180             185             190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
    195             200             205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
    210             215             220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225             230             235             240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
            245             250             255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
            260             265             270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
    275             280             285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
```

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305   310   315   320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
              325   330   335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
          340   345   350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Pro Asp Asn Cys
          355   360   365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Ser Glu Lys Leu Ser Ser
    370   375   380

Val Glu Glu Glu Pro Gly Val Ser Gln Asp Arg Lys Val Glu Val Ile
385   390   395   400

Lys Pro Leu Val Val Glu Thr Glu Ser Ala Ser Arg Ala Thr Phe Val
              405   410   415

Leu Gly Ala Ser Gly Thr Ser Pro Pro Val Ala Ala Arg Thr Gln Glu
          420   425   430

Leu Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
          435   440   445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
    450   455   460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465   470   475   480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
              485   490   495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
          500   505   510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
          515   520   525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
    530   535   540

```
Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545                 550             555                 560


Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
                565             570                 575


Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
            580             585                 590


Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
        595             600                 605


Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
    610             615                 620


Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625                 630             635                 640


Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
            645             650                 655


Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu
            660             665                 670


Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
        675             680                 685


Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr
    690             695                 700


Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu
705             710                 715                 720


Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
            725             730                 735


Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
            740             745                 750


Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
        755             760                 765


Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
    770             775                 780
```

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785   790   795   800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
            805   810   815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
            820   825   830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
            835   840   845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
    850   855   860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865   870   875   880

Thr Cys Thr Lys Lys Ser Ala
                885

<210> 309
<211> 1045
<212> PRT
<213> Saccharomyces cerevisiae

<400> 309

Met Ser Leu Pro Leu Lys Thr Ile Val His Leu Val Lys Pro Phe Ala
1   5   10   15

Cys Thr Ala Arg Phe Ser Ala Arg Tyr Pro Ile His Val Ile Val Val
            20   25   30

Ala Val Leu Leu Ser Ala Ala Ala Tyr Leu Ser Val Thr Gln Ser Tyr
            35   40   45

Leu Asn Glu Trp Lys Leu Asp Ser Asn Gln Tyr Ser Thr Tyr Leu Ser
    50   55   60

Ile Lys Pro Asp Glu Leu Phe Glu Lys Cys Thr His Tyr Tyr Arg Ser
65   70   75   80

Pro Val Ser Asp Thr Trp Lys Leu Leu Ser Ser Lys Glu Ala Ala Asp
            85   90   95

Ile Tyr Thr Pro Phe His Tyr Tyr Leu Ser Thr Ile Ser Phe Gln Ser

Lys Asp Asn Ser Thr Thr Leu Pro Ser Leu Asp Asp Val Ile Tyr Ser
        115   120   125

Val Asp His Thr Arg Tyr Leu Leu Ser Glu Glu Pro Lys Ile Pro Thr
    130   135   140

Glu Leu Val Ser Glu Asn Gly Thr Lys Trp Arg Leu Arg Asn Asn Ser
145   150   155   160

Asn Phe Ile Leu Asp Leu His Asn Ile Tyr Arg Asn Met Val Lys Gln
                165   170   175

Phe Ser Asn Lys Thr Ser Glu Phe Asp Gln Phe Asp Leu Phe Ile Ile
            180   185   190

Leu Ala Ala Tyr Leu Thr Leu Phe Tyr Thr Leu Cys Cys Leu Phe Asn
            195   200   205

Asp Met Arg Lys Ile Gly Ser Lys Phe Trp Leu Ser Phe Ser Ala Leu
    210   215   220

Ser Asn Ser Ala Cys Ala Leu Tyr Leu Ser Leu Tyr Thr Thr His Ser
225   230   235   240

Leu Leu Lys Lys Pro Ala Ser Leu Leu Ser Leu Val Ile Gly Leu Pro
            245   250   255

Phe Ile Val Val Ile Ile Gly Phe Lys His Lys Val Arg Leu Ala Ala
            260   265   270

Phe Ser Leu Gln Lys Phe His Arg Ile Ser Ile Asp Lys Lys Ile Thr
            275   280   285

Val Ser Asn Ile Ile Tyr Glu Ala Met Phe Gln Glu Gly Ala Tyr Leu
    290   295   300

Ile Arg Asp Tyr Leu Phe Tyr Ile Ser Ser Phe Ile Gly Cys Ala Ile
305   310   315   320

Tyr Ala Arg His Leu Pro Gly Leu Val Asn Phe Cys Ile Leu Ser Thr
                325   330   335

Phe Met Leu Val Phe Asp Leu Leu Leu Ser Ala Thr Phe Tyr Ser Ala
            340   345   350

```
Ile Leu Ser Met Lys Leu Glu Ile Asn Ile Ile His Arg Ser Thr Val
        355                 360                 365


Ile Arg Gln Thr Leu Glu Glu Asp Gly Val Val Pro Thr Thr Ala Asp
    370                 375                 380


Ile Ile Tyr Lys Asp Glu Thr Ala Ser Glu Pro His Phe Leu Arg Ser
385                 390                 395                 400


Asn Val Ala Ile Ile Leu Gly Lys Ala Ser Val Ile Gly Leu Leu Leu
                405                 410                 415


Leu Ile Asn Leu Tyr Val Phe Thr Asp Lys Leu Asn Ala Thr Ile Leu
            420                 425                 430


Asn Thr Val Tyr Phe Asp Ser Thr Ile Tyr Ser Leu Pro Asn Phe Ile
        435                 440                 445


Asn Tyr Lys Asp Ile Gly Asn Leu Ser Asn Gln Val Ile Ile Ser Val
    450                 455                 460


Leu Pro Lys Gln Tyr Tyr Thr Pro Leu Lys Lys Tyr His Gln Ile Glu
465                 470                 475                 480


Asp Ser Val Leu Leu Ile Ile Asp Ser Val Ser Asn Ala Ile Arg Asp
                485                 490                 495


Gln Phe Ile Ser Lys Leu Leu Phe Phe Ala Phe Ala Val Ser Ile Ser
            500                 505                 510


Ile Asn Val Tyr Leu Leu Asn Ala Ala Lys Ile His Thr Gly Tyr Met
        515                 520                 525


Asn Phe Gln Pro Gln Ser Asn Lys Ile Asp Asp Leu Val Val Gln Gln
    530                 535                 540


Lys Ser Ala Thr Ile Glu Phe Ser Glu Thr Arg Ser Met Pro Ala Ser
545                 550                 555                 560


Ser Gly Leu Glu Thr Pro Val Thr Ala Lys Asp Ile Ile Ile Ser Glu
                565                 570                 575


Glu Ile Gln Asn Asn Glu Cys Val Tyr Ala Leu Ser Ser Gln Asp Glu
    580                 585                 590
```

```
Pro Ile Arg Pro Leu Ser Asn Leu Val Glu Leu Met Glu Lys Glu Gln
        595                 600             605

Leu Lys Asn Met Asn Asn Thr Glu Val Ser Asn Leu Val Val Asn Gly
        610                 615             620

Lys Leu Pro Leu Tyr Ser Leu Glu Lys Lys Leu Glu Asp Thr Thr Arg
625                 630             635                 640

Ala Val Leu Val Arg Arg Lys Ala Leu Ser Thr Leu Ala Glu Ser Pro
                645             650                 655

Ile Leu Val Ser Glu Lys Leu Pro Phe Arg Asn Tyr Asp Tyr Asp Arg
                660             665                 670

Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro
        675                 680                 685

Val Gly Val Ile Gly Pro Leu Ile Ile Asp Gly Thr Ser Tyr His Ile
        690                 695                 700

Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Ala Met Arg Gly
705                 710                 715                 720

Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Thr Thr Val Leu Thr Lys
                725                 730                 735

Asp Gly Met Thr Arg Gly Pro Val Val Arg Phe Pro Thr Leu Ile Arg
                740                 745                 750

Ser Gly Ala Cys Lys Ile Trp Leu Asp Ser Glu Glu Gly Gln Asn Ser
        755                 760                 765

Ile Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu Gln His
        770                 775                 780

Ile Gln Thr Cys Leu Ala Gly Asp Leu Leu Phe Met Arg Phe Arg Thr
785                 790                 795                 800

Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Val Glu
                805                 810                 815

Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp Glu Asp Met Glu
                820                 825                 830
```

Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala
        835   840   845

Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Thr
        850   855   860

Ile Pro Gly Asp Val Val Lys Ser Val Leu Lys Ser Asp Val Ser Ala
865   870   875   ·   880

Leu Val Glu Leu Asn Ile Ser Lys Asn Leu Val Gly Ser Ala Met Ala
            885   .   890   895

Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Leu Val Thr Ala
        900   905   910

Leu Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
        915   920   925

Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp Leu Arg Ile Ser
    930   935   940

Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly Thr Val
945   950   955   960

Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg Gly Pro
            965   970   975

His Pro Thr Glu Pro Gly Ala Asn Ala Arg Gln Leu Ala Arg Ile Ile
            980   985   990

Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys Ser Ala Leu Ala
        995   1000   1005

Ala Gly His Leu Val Gln Ser His Met Thr His Asn Arg Lys Thr
    1010   1015   1020

Asn Lys Ala Asn Glu Leu Pro Gln Pro Ser Asn Lys Gly Pro Pro
    1025   1030   1035

Cys Lys Thr Ser Ala Leu Leu
    1040   1045

<210>   310
<211>   210
<212>   PRT
<213>   Hevea brasiliensis

<400> 310

Leu Glu Ser Asp Phe Ala Asp Met Asp Val Ile Gly Ile Ser Gly Asn
1   5   10   15

Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg
            20   25   30

Gly Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Glu Val Val Lys
        35   40   45

Lys Val Leu Lys Thr Asp Val Ala Leu Leu Val Glu Leu Asn Met Leu
    50   55   60

Lys Asn Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn
65   70   75   80

Ala His Ala Gly Asn Ile Val Ser Ala Ile Phe Ile Ala Thr Gly Gln
            85   90   95

Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Met Glu
        100   105   110

Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Leu Pro Ser
        115   120   125

Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser
    130   135   140

Ala Cys Leu Asn Leu Leu Gly Val Met Gly Ala Cys Lys Glu Ser Pro
145   150   155   160

Gly Ser Tyr Ser Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu
            165   170   175

Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val
        180   185   190

Lys Ser His Met Lys Tyr Asn Arg Ser Ser Lys Asp Val Ser Lys Ala
        195   200   205

Ala Ser
    210

<210> 311
<211> 1054
<212> PRT

25156216   - 559 -

<213> Saccharomyces cerevisiae

<400> 311

Met Pro Pro Leu Phe Lys Gly Leu Lys Gln Met Ala Lys Pro Ile Ala
1   5   10   15

Tyr Val Ser Arg Phe Ser Ala Lys Arg Pro Ile His Ile Ile Leu Phe
            20   25   30

Ser Leu Ile Ile Ser Ala Phe Ala Tyr Leu Ser Val Ile Gln Tyr Tyr
        35   40   45

Phe Asn Gly Trp Gln Leu Asp Ser Asn Ser Val Phe Glu Thr Ala Pro
    50   55   60

Asn Lys Asp Ser Asn Thr Leu Phe Gln Glu Cys Ser His Tyr Tyr Arg
65   70   75   80

Asp Ser Ser Leu Asp Gly Trp Val Ser Ile Thr Ala His Glu Ala Ser
            85   90   95

Glu Leu Pro Ala Pro His His Tyr Tyr Leu Leu Asn Leu Asn Phe Asn
            100   105   110

Ser Pro Asn Glu Thr Asp Ser Ile Pro Glu Leu Ala Asn Thr Val Phe
        115   120   125

Glu Lys Asp Asn Thr Lys Tyr Ile Leu Gln Glu Asp Leu Ser Val Ser
    130   135   140

Lys Glu Ile Ser Ser Thr Asp Gly Thr Lys Trp Arg Leu Arg Ser Asp
145   150   155   160

Arg Lys Ser Leu Phe Asp Val Lys Thr Leu Ala Tyr Ser Leu Tyr Asp
            165   170   175

Val Phe Ser Glu Asn Val Thr Gln Ala Asp Pro Phe Asp Val Leu Ile
            180   185   190

Met Val Thr Ala Tyr Leu Met Met Phe Tyr Thr Ile Phe Gly Leu Phe
            195   200   205

Asn Asp Met Arg Lys Thr Gly Ser Asn Phe Trp Leu Ser Ala Ser Thr
    210   215   220

Val Val Asn Ser Ala Ser Ser Leu Phe Leu Ala Leu Tyr Val Thr Gln

Cys Ile Leu Gly Lys Glu Val Ser Ala Leu Thr Leu Phe Glu Gly Leu
             245   250   255

Pro Phe Ile Val Val Val Gly Phe Lys His Lys Ile Lys Ile Ala
             260   265   270

Gln Tyr Ala Leu Glu Lys Phe Glu Arg Val Gly Leu Ser Lys Arg Ile
         275   280   285

Thr Thr Asp Glu Ile Val Phe Glu Ser Val Ser Glu Glu Gly Gly Arg
         290   295   300

Leu Ile Gln Asp His Leu Leu Cys Ile Phe Ala Phe Ile Gly Cys Ser
305   310   315   320

Met Tyr Ala His Gln Leu Lys Thr Leu Thr Asn Phe Cys Ile Leu Ser
             325   330   335

Ala Phe Ile Leu Ile Phe Glu Leu Ile Leu Thr Pro Thr Phe Tyr Ser
             340   345   350

Ala Ile Leu Ala Leu Arg Leu Glu Met Asn Val Ile His Arg Ser Thr
         355   360   365

Ile Ile Lys Gln Thr Leu Glu Glu Asp Gly Val Val Pro Ser Thr Ala
     370   375   380

Arg Ile Ile Ser Lys Ala Glu Lys Lys Ser Val Ser Ser Phe Leu Asn
385   390   395   400

Leu Ser Val Val Val Ile Ile Met Lys Leu Ser Val Ile Leu Leu Phe
             405   410   415

Val Phe Ile Asn Phe Tyr Asn Phe Gly Ala Asn Trp Val Asn Asp Ala
             420   425   430

Phe Asn Ser Leu Tyr Phe Asp Lys Glu Arg Val Ser Leu Pro Asp Phe
         435   440   445

Ile Thr Ser Asn Ala Ser Glu Asn Phe Lys Glu Gln Ala Ile Val Ser
     450   455   460

Val Thr Pro Leu Leu Tyr Tyr Lys Pro Ile Lys Ser Tyr Gln Arg Ile
465   470   475   480

```
Glu Asp Met Val Leu Leu Leu Leu Arg Asn Val Ser Val Ala Ile Arg
            485             490             495

Asp Arg Phe Val Ser Lys Leu Val Leu Ser Ala Leu Val Cys Ser Ala
            500             505             510

Val Ile Asn Val Tyr Leu Leu Asn Ala Ala Arg Ile His Thr Ser Tyr
            515             520             525

Thr Ala Asp Gln Leu Val Lys Thr Glu Val Thr Lys Lys Ser Phe Thr
            530             535             540

Ala Pro Val Gln Lys Ala Ser Thr Pro Val Leu Thr Asn Lys Thr Val
545             550             555             560

Ile Ser Gly Ser Lys Val Lys Ser Leu Ser Ser Ala Gln Ser Ser Ser
            565             570             575

Ser Gly Pro Ser Ser Ser Ser Glu Glu Asp Asp Ser Arg Asp Ile Glu
            580             585             590

Ser Leu Asp Lys Lys Ile Arg Pro Leu Glu Glu Leu Glu Ala Leu Leu
            595             600             605

Ser Ser Gly Asn Thr Lys Gln Leu Lys Asn Lys Glu Val Ala Ala Leu
            610             615             620

Val Ile His Gly Lys Leu Pro Leu Tyr Ala Leu Glu Lys Lys Leu Gly
625             630             635             640

Asp Thr Thr Arg Ala Val Ala Val Arg Arg Lys Ala Leu Ser Ile Leu
            645             650             655

Ala Glu Ala Pro Val Leu Ala Ser Asp Arg Leu Pro Tyr Lys Asn Tyr
            660             665             670

Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
            675             680             685

Met Pro Leu Pro Val Gly Val Ile Gly Pro Leu Val Ile Asp Gly Thr
            690             695             700

Ser Tyr His Ile Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
705             710             715             720
```

```
Ala Met Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Thr Thr
                725             730                 735

Val Leu Thr Lys Asp Gly Met Thr Arg Gly Pro Val Val Arg Phe Pro
                740             745                 750

Thr Leu Lys Arg Ser Gly Ala Cys Lys Ile Trp Leu Asp Ser Glu Glu
                755             760                 765

Gly Gln Asn Ala Ile Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
    770             775             780

Arg Leu Gln His Ile Gln Thr Cys Leu Ala Gly Asp Leu Leu Phe Met
785             790             795                 800

Arg Phe Arg Thr Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
                805             810                 815

Lys Gly Val Glu Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp
                820             825                 830

Glu Asp Met Glu Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys
                835             840                 845

Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val
    850             855             860

Ala Glu Ala Thr Ile Pro Gly Asp Val Val Arg Lys Val Leu Lys Ser
865             870             875                 880

Asp Val Ser Ala Leu Val Glu Leu Asn Ile Ala Lys Asn Leu Val Gly
                885             890                 895

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn
                900             905             910

Leu Val Thr Ala Val Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn
                915             920             925

Val Glu Ser Ser Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp
    930             935             940

Leu Arg Ile Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly
945             950             955                 960
```

Gly Gly Thr Val Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly
            965   970   975

Val Arg Gly Pro His Ala Thr Ala Pro Gly Thr Asn Ala Arg Gln Leu
            980   985   990

Ala Arg Ile Val Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys
            995   1000   1005

Ala Ala Leu Ala Ala Gly His Leu Val Gln Ser His Met Thr His
    1010   1015   1020

Asn Arg Lys Pro Ala Glu Pro Thr Lys Pro Asn Asn Leu Asp Ala
    1025   1030   1035

Thr Asp Ile Asn Arg Leu Lys Asp Gly Ser Val Thr Cys Ile Lys
    1040   1045   1050

Ser

<210> 312
<211> 575
<212> PRT
<213> Hevea brasiliensis

<400> 312

Met Asp Thr Thr Gly Arg Leu His His Arg Lys His Ala Thr Pro Val
1   5   10   15

Glu Asp Arg Ser Pro Thr Thr Pro Lys Ala Ser Asp Ala Leu Pro Leu
            20   25   30

Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr Leu Phe Phe Ser Val
            35   40   45

Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys Ile Arg Asn Ser Thr
    50   55   60

Pro Leu His Ile Val Thr Leu Ser Glu Ile Val Ala Ile Val Ser Leu
65   70   75   80

Ile Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly Ile Asp Phe Val
            85   90   95

Gln Ser Phe Ile Ala Arg Ala Ser His Asp Val Trp Asp Leu Glu Asp
            100   105   110

```
Thr Asp Pro Asn Tyr Leu Ile Asp Glu Asp His Arg Leu Val Thr Cys
    115             120             125

Pro Pro Ala Asn Ile Ser Thr Lys Thr Thr Ile Ile Ala Ala Pro Thr
130             135             140

Lys Leu Pro Thr Ser Glu Pro Leu Ile Ala Pro Leu Val Ser Glu Glu
145             150             155             160

Asp Glu Met Ile Val Asn Ser Val Val Asp Gly Lys Ile Pro Ser Tyr
                165             170             175

Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg Ala Ala Ala Ile Arg
            180             185             190

Arg Glu Ala Leu Gln Arg Met Thr Arg Arg Ser Leu Glu Gly Leu Pro
            195             200             205

Val Glu Gly Phe Asp Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met
    210             215             220

Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu
225             230             235             240

Leu Asn Gly Arg Glu Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys
            245             250             255

Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Tyr Leu Ser Gly
            260             265             270

Gly Ala Thr Ser Val Leu Leu Lys Asp Gly Met Thr Arg Ala Pro Val
        275             280             285

Val Arg Phe Ala Ser Ala Thr Arg Ala Ala Glu Leu Lys Phe Phe Leu
    290             295             300

Glu Asp Pro Asp Asn Phe Asp Thr Leu Ala Val Val Phe Asn Lys Ser
305             310             315             320

Ser Arg Phe Ala Arg Leu Gln Gly Ile Lys Cys Ser Ile Ala Gly Lys
            325             330             335

Asn Leu Tyr Ile Arg Phe Ser Cys Ser Thr Gly Asp Ala Met Gly Met
            340             345             350
```

```
Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Glu Phe Leu Gln Ser
        355             360             365

Asp Phe Ser Asp Met Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser
    370             375             380

Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser
385             390             395             400

Val Val Cys Glu Ala Ile Ile Lys Glu Glu Val Val Lys Lys Val Leu
            405             410             415

Lys Thr Asn Val Ala Ser Leu Val Glu Leu Asn Met Leu Lys Asn Leu
            420             425             430

Ala Gly Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ala
        435             440             445

Gly Asn Ile Val Ser Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro Ala
    450             455             460

Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Met Glu Ala Val Asn
465             470             475             480

Asp Gly Lys Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu Val
            485             490             495

Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu
        500             505             510

Asn Leu Leu Gly Val Lys Gly Ala Asn Lys Glu Ser Pro Gly Ser Asn
        515             520             525

Ser Arg Leu Leu Ala Ala Ile Val Ala Gly Ser Val Leu Ala Gly Glu
    530             535             540

Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val Lys Ser His
545             550             555             560

Met Lys Tyr Asn Arg Ser Ser Lys Asp Met Ser Lys Ala Ala Ser
            565             570             575


<210>  313
<211>  520
<212>  PRT
<213>  Rattus norvegicus
```

<400> 313

Met Pro Gly Ser Leu Pro Leu Asn Ala Glu Ala Cys Trp Pro Lys Asp
1   5   10   15

Val Gly Ile Val Ala Leu Glu Ile Tyr Phe Pro Ser Gln Tyr Val Asp
            20   25   30

Gln Ala Glu Leu Glu Lys Tyr Asp Gly Val Asp Ala Gly Lys Tyr Thr
            35   40   45

Ile Gly Leu Gly Gln Ala Arg Met Gly Phe Cys Thr Asp Arg Glu Asp
    50   55   60

Ile Asn Ser Leu Cys Leu Thr Val Val Gln Lys Leu Met Glu Arg Asn
65   70   75   80

Ser Leu Ser Tyr Asp Cys Ile Gly Arg Leu Glu Val Gly Thr Glu Thr
            85   90   95

Ile Ile Asp Lys Ser Lys Ser Val Lys Ser Asn Leu Met Gln Leu Phe
            100   105   110

Glu Glu Ser Gly Asn Thr Asp Ile Glu Gly Ile Asp Thr Thr Asn Ala
            115   120   125

Cys Tyr Gly Gly Thr Ala Ala Val Phe Asn Ala Val Asn Trp Ile Glu
    130   135   140

Ser Ser Ser Trp Asp Gly Arg Tyr Ala Leu Val Val Ala Gly Asp Ile
145   150   155   160

Ala Ile Tyr Ala Ser Gly Asn Ala Arg Pro Thr Gly Gly Val Gly Ala
            165   170   175

Val Ala Leu Leu Ile Gly Pro Asn Ala Pro Val Ile Phe Asp Arg Gly
            180   185   190

Leu Arg Gly Thr His Met Gln His Ala Tyr Asp Phe Tyr Lys Pro Asp
            195   200   205

Met Leu Ser Glu Tyr Pro Val Val Asp Gly Lys Leu Ser Ile Gln Cys
    210   215   220

Tyr Leu Ser Ala Leu Asp Arg Cys Tyr Ser Val Tyr Arg Lys Lys Ile
225   230   235   240

25156216   - 567 -

Arg Ala Gln Trp Gln Lys Glu Gly Lys Asp Lys Asp Phe Thr Leu Asn
                245   250   255

Asp Phe Gly Phe Met Ile Phe His Ser Pro Tyr Cys Lys Leu Val Gln
            260   265   270

Lys Ser Leu Ala Arg Met Phe Leu Asn Asp Phe Leu Asn Asp Gln Asn
        275   280   285

Arg Asp Lys Asn Ser Ile Tyr Ser Gly Leu Glu Ala Phe Gly Asp Val
    290   295   300

Lys Leu Glu Asp Thr Tyr Phe Asp Arg Asp Val Glu Lys Ala Phe Met
305   310   315   320

Lys Ala Ser Ala Glu Leu Phe Asn Gln Lys Thr Lys Ala Ser Leu Leu
            325   330   335

Val Ser Asn Gln Asn Gly Asn Met Tyr Thr Ser Ser Val Tyr Gly Ser
            340   345   350

Leu Ala Ser Val Leu Ala Gln Tyr Ser Pro Gln Gln Leu Ala Gly Lys
        355   360   365

Arg Ile Gly Val Phe Ser Tyr Gly Ser Gly Leu Ala Ala Thr Leu Tyr
    370   375   380

Ser Leu Lys Val Thr Gln Asp Ala Thr Pro Gly Ser Ala Leu Asp Lys
385   390   395   400

Ile Thr Ala Ser Leu Cys Asp Leu Lys Ser Arg Leu Asp Ser Arg Thr
            405   410   415

Cys Val Ala Pro Asp Val Phe Ala Glu Asn Met Lys Leu Arg Glu Asp
            420   425   430

Thr His His Leu Ala Asn Tyr Ile Pro Gln Cys Ser Ile Asp Ser Leu
        435   440   445

Phe Glu Gly Thr Trp Tyr Leu Val Arg Val Asp Glu Lys His Arg Arg
    450   455   460

Thr Tyr Ala Arg Arg Pro Ser Thr Asn Asp His Ser Leu Asp Glu Gly
465   470   475   480

```
Val Gly Leu Val His Ser Asn Thr Ala Thr Glu His Ile Pro Ser Pro
              485                 490                 495

Ala Lys Lys Val Pro Arg Leu Pro Ala Thr Ser Gly Glu Pro Glu Ser
              500                 505                 510

Ala Val Ile Ser Asn Gly Glu His
              515                 520


<210>  314
<211>  520
<212>  PRT
<213>  Cricetulus griseus

<400>  314

Met Pro Gly Ser Leu Pro Leu Asn Ala Glu Ala Cys Trp Pro Lys Asp
1               5                  10                  15

Val Gly Ile Val Ala Leu Glu Ile Tyr Phe Pro Ser Gln Tyr Val Asp
              20                 25                  30

Gln Ala Glu Leu Glu Lys Tyr Asp Gly Val Asp Ala Gly Lys Tyr Thr
              35                 40                  45

Ile Gly Leu Gly Gln Ala Arg Met Gly Phe Cys Thr Asp Arg Glu Asp
     50                55                  60

Ile Asn Ser Leu Cys Leu Thr Val Val Gln Asn Leu Met Glu Arg Asn
65                  70                 75                  80

Ser Leu Ser Tyr Asp Cys Ile Gly Arg Leu Glu Val Gly Thr Glu Thr
              85                 90                  95

Ile Ile Asp Lys Ser Lys Ser Val Lys Ser Asn Leu Met Gln Leu Phe
              100                105                 110

Glu Glu Ser Gly Asn Thr Asp Ile Glu Gly Ile Asp Thr Thr Asn Ala
              115                120                 125

Cys Tyr Gly Gly Thr Ala Ala Val Phe Asn Ala Val Asn Trp Ile Glu
     130                135                 140

Ser Ser Ser Trp Asp Gly Arg Tyr Ala Leu Val Val Ala Gly Asp Ile
145                 150                155                 160

Ala Ile Tyr Ala Thr Gly Asn Ala Arg Pro Thr Gly Gly Val Gly Ala
```

25156216   - 569 -

Val Ala Leu Leu Ile Gly Pro Asn Ala Pro Leu Ile Phe Asp Arg Gly
        180   185   190

Leu Arg Gly Thr His Met Gln His Ala Tyr Asp Phe Tyr Lys Pro Asp
        195   200   205

Met Leu Ser Glu Tyr Pro Ile Val Asp Gly Lys Leu Ser Ile Gln Cys
    210   215   220

Tyr Leu Ser Ala Leu Asp Arg Cys Tyr Ser Val Tyr Arg Lys Lys Ile
225   230   235   240

Arg Ala Gln Trp Gln Lys Glu Gly Asn Asp Asn Asp Phe Thr Leu Asn
            245   250   255

Asp Phe Gly Phe Met Ile Ser His Ser Pro Tyr Cys Lys Leu Val Gln
        260   265   270

Lys Ser Leu Ala Arg Met Phe Leu Asn Asp Phe Leu Asn Asp Gln Asn
        275   280   285

Arg Asp Lys Asn Ser Ile Tyr Ser Gly Leu Glu Ala Phe Gly Asp Val
    290   295   300

Lys Leu Glu Asp Thr Tyr Phe Asp Arg Asp Val Glu Lys Ala Phe Met
305   310   315   320

Lys Ala Ser Ser Glu Leu Phe Asn Gln Lys Thr Lys Ala Ser Leu Leu
            325   330   335

Val Ser Asn Gln Asn Gly Asn Met Tyr Thr Ser Ser Val Tyr Gly Ser
        340   345   350

Leu Ala Ser Val Leu Ala Gln Tyr Ser Pro Gln Gln Leu Ala Gly Lys
        355   360   365

Arg Ile Gly Val Phe Ser Tyr Gly Ser Gly Leu Ala Ala Thr Leu Tyr
    370   375   380

Ser Leu Lys Val Thr Gln Asp Ala Thr Pro Gly Ser Ala Leu Asp Lys
385   390   395   400

Val Thr Ala Ser Leu Cys Asp Leu Lys Ser Arg Leu Asp Ser Arg Thr
            405   410   415

```
Cys Val Ala Pro Asp Val Phe Ala Glu Asn Met Lys Leu Arg Glu Asp
            420                 425                 430


Thr His His Leu Ala Asn Tyr Ile Pro Gln Cys Ser Ile Asp Ser Leu
        435                 440                 445


Phe Glu Gly Thr Trp Tyr Leu Val Arg Val Asp Glu Lys His Arg Arg
    450                 455                 460


Thr Tyr Ala Arg Arg Pro Ser Thr Asn Asp His Asn Leu Gly Asp Gly
465                 470                 475                 480


Val Gly Leu Val His Ser Asn Thr Ala Thr Glu His Ile Pro Ser Pro
                485                 490                 495


Ala Lys Lys Val Pro Arg Leu Pro Ala Thr Ala Ala Glu Ser Glu Ser
            500                 505                 510


Ala Val Ile Ser Asn Gly Glu His
            515                 520



<210>   315
<211>   522
<212>   PRT
<213>   Gallus gallus

<400>   315

Met Pro Gly Ser Leu Pro Val Asn Thr Glu Ser Cys Trp Pro Lys Asp
1               5                   10                  15


Val Gly Ile Val Ala Leu Glu Ile Tyr Phe Pro Ser Gln Tyr Val Asp
            20                  25                  30


Gln Thr Glu Leu Glu Lys Tyr Asp Gly Val Asp Ala Gly Lys Tyr Thr
        35                  40                  45


Ile Gly Leu Gly Gln Ser Lys Met Gly Phe Cys Ser Asp Arg Glu Asp
    50                  55                  60


Ile Asn Ser Leu Cys Leu Thr Val Val Gln Lys Leu Met Glu Arg Asn
65                  70                  75                  80


Ser Leu Ser Tyr Asp Cys Ile Gly Arg Leu Glu Val Gly Thr Glu Thr
                85                  90                  95
```

```
Ile Ile Asp Lys Ser Lys Ser Val Lys Thr Val Leu Met Gln Leu Phe
        100             105             110

Glu Glu Ser Gly Asn Thr Asp Val Glu Gly Ile Asp Thr Thr Asn Ala
        115             120             125

Cys Tyr Gly Gly Thr Ala Ala Leu Phe Asn Ala Ile Asn Trp Ile Glu
        130             135             140

Ser Ser Ser Trp Asp Gly Arg Tyr Ala Leu Val Val Ala Gly Asp Ile
145             150             155             160

Ala Val Tyr Ala Thr Gly Asn Ala Arg Pro Thr Gly Gly Ala Gly Ala
                165             170             175

Val Ala Met Leu Val Gly Ser Asn Ala Pro Leu Ile Phe Glu Arg Gly
            180             185             190

Leu Arg Gly Thr His Met Gln His Ala Tyr Asp Phe Tyr Lys Pro Asp
            195             200             205

Met Val Ser Glu Tyr Pro Val Val Asp Gly Lys Leu Ser Ile Gln Cys
        210             215             220

Tyr Leu Ser Ala Leu Asp Arg Cys Tyr Ser Val Tyr Arg Asn Lys Ile
225             230             235             240

His Ala Gln Trp Gln Lys Glu Gly Thr Asp Arg Gly Phe Thr Leu Asn
                245             250             255

Asp Phe Gly Phe Met Ile Phe His Ser Pro Tyr Cys Lys Leu Val Gln
            260             265             270

Lys Ser Val Ala Arg Leu Leu Leu Asn Asp Phe Leu Ser Asp Gln Asn
            275             280             285

Ala Glu Thr Ala Asn Gly Val Phe Ser Gly Leu Glu Ala Phe Arg Asp
        290             295             300

Val Lys Leu Glu Asp Thr Tyr Phe Asp Arg Asp Val Glu Lys Ala Phe
305             310             315             320

Met Lys Ala Ser Ala Glu Leu Phe Asn Gln Lys Thr Lys Ala Ser Leu
                325             330             335

Leu Val Ser Asn Gln Asn Gly Asn Met Tyr Thr Pro Ser Val Tyr Gly
```

Cys Leu Ala Ser Leu Leu Ala Gln Tyr Ser Pro Glu His Leu Ala Gly
        355   360   365

Gln Arg Ile Ser Glu Phe Ser Tyr Gly Ser Gly Phe Ala Ala Thr Leu
        370   375   380

Tyr Ser Ile Arg Val Thr Gln Asp Ala Thr Pro Gly Ser Ala Leu Asp
385   390   395   400

Lys Ile Thr Ala Ser Leu Ser Asp Leu Lys Ala Arg Leu Asp Ser Arg
                405   410   415

Lys Cys Ile Ala Pro Asp Val Phe Ala Glu Asn Met Lys Ile Arg Gln
            420   425   430

Glu Thr His His Leu Ala Asn Tyr Ile Pro Gln Cys Ser Val Glu Asp
        435   440   445

Leu Phe Glu Gly Thr Trp Tyr Leu Val Arg Val Asp Glu Lys His Arg
        450   455   460

Arg Thr Tyr Ala Arg Arg Pro Val Met Gly Asp Gly Pro Leu Glu Ala
465   470   475   480

Gly Val Glu Val Val His Pro Gly Ile Val His Glu His Ile Pro Ser
            485   490   495

Pro Ala Lys Lys Val Pro Arg Ile Pro Ala Thr Thr Glu Ser Glu Gly
            500   505   510

Val Thr Val Ala Ile Ser Asn Gly Val His
        515   520

<210> 316
<211> 508
<212> PRT
<213> Rattus norvegicus

<400> 316

Met Gln Arg Leu Leu Ala Pro Ala Arg Arg Val Leu Gln Val Lys Arg
1   5   10   15

Val Met Gln Glu Ser Ser Leu Ser Pro Ala His Leu Leu Pro Ala Ala
            20   25   30

```
Gln Gln Arg Phe Ser Thr Ile Pro Pro Ala Pro Leu Ala Lys Thr Asp
        35              40              45

Thr Trp Pro Lys Asp Val Gly Ile Leu Ala Leu Glu Val Tyr Phe Pro
    50              55              60

Ala Gln Tyr Val Asp Gln Thr Asp Leu Glu Lys Phe Asn Asn Val Glu
65              70              75              80

Ala Gly Lys Tyr Thr Val Gly Leu Gly Gln Thr Arg Met Gly Phe Cys
            85              90              95

Ser Val Gln Glu Asp Ile Asn Ser Leu Cys Leu Thr Val Val Gln Arg
        100             105             110

Leu Met Glu Arg Thr Lys Leu Pro Trp Asp Ala Val Gly Arg Leu Glu
        115             120             125

Val Gly Thr Glu Thr Ile Ile Asp Lys Ser Lys Ala Val Lys Thr Val
    130             135             140

Leu Met Glu Leu Phe Gln Asp Ser Gly Asn Thr Asp Ile Glu Gly Ile
145             150             155             160

Asp Thr Thr Asn Ala Cys Tyr Gly Gly Thr Ala Ser Leu Phe Asn Ala
            165             170             175

Ala Asn Trp Met Glu Ser Ser Tyr Trp Asp Gly Arg Tyr Ala Leu Val
            180             185             190

Val Cys Gly Asp Ile Ala Val Tyr Pro Ser Gly Asn Pro Arg Pro Thr
        195             200             205

Gly Gly Ala Gly Ala Val Ala Met Leu Ile Gly Pro Lys Ala Pro Leu
    210             215             220

Val Leu Glu Gln Gly Leu Arg Gly Thr His Met Glu Asn Ala Tyr Asp
225             230             235             240

Phe Tyr Lys Pro Asn Leu Ala Ser Glu Tyr Pro Leu Val Asp Gly Lys
            245             250             255

Leu Ser Ile Gln Cys Tyr Leu Arg Ala Leu Asp Arg Cys Tyr Ala Ala
            260             265             270
```

```
Tyr Arg Arg Lys Ile Gln Asn Gln Trp Lys Gln Ala Gly Asn Asn Gln
        275             280             285

Pro Phe Thr Leu Asp Asp Val Gln Tyr Met Ile Phe His Thr Pro Phe
        290             295             300

Cys Lys Met Val Gln Lys Ser Leu Ala Arg Leu Met Phe Asn Asp Phe
305             310             315             320

Leu Ser Ser Ser Ser Asp Lys Gln Asn Asn Leu Tyr Lys Gly Leu Glu
                325             330             335

Ala Phe Lys Gly Leu Lys Leu Glu Glu Thr Tyr Thr Asn Lys Asp Val
        340             345             350

Asp Lys Ala Leu Leu Lys Ala Ser Leu Asp Met Phe Asn Lys Lys Thr
        355             360             365

Lys Ala Ser Leu Tyr Leu Ser Thr Asn Asn Gly Asn Met Tyr Thr Ser
    370             375             380

Ser Leu Tyr Gly Cys Leu Ala Ser Leu Leu Ser His His Ser Ala Gln
385             390             395             400

Glu Leu Ala Gly Ser Arg Ile Gly Ala Phe Ser Tyr Gly Ser Gly Leu
            405             410             415

Ala Ala Ser Phe Phe Ser Phe Arg Val Ser Lys Asp Ala Ser Pro Gly
            420         ·       425             430

Ser Pro Leu Glu Lys Leu Val Ser Ser Val Ser Asp Leu Pro Lys Arg
        435             440             445

Leu Asp Ser Arg Arg Arg Met Ser Pro Glu Glu Phe Thr Glu Ile Met
        450             455             460

Asn Gln Arg Glu Gln Phe Tyr His Lys Val Asn Phe Ser Pro Pro Gly
465             470             475             480

Asp Thr Ser Asn Leu Phe Pro Gly Thr Trp Tyr Leu Glu Arg Val Asp
                485             490             495

Glu Met His Arg Arg Lys Tyr Ala Arg Arg Pro Val
            500             505


<210>   317
```

<211> 567
<212> PRT
<213> Artemisia annua

<400> 317

Met Asp Leu Arg Arg Lys Leu Pro Pro Lys Pro Pro Ser Ser Thr Thr
1   5   10   15

Thr Lys Gln Pro Ser His Arg Ser His Ser Pro Thr Pro Ile Pro Lys
            20   25   30

Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Thr Phe Phe
            35   40   45

Phe Thr Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg
        50   55   60

Asp Lys Ile Arg Ser Gly Thr Pro Leu His Val Val Thr Leu Thr Glu
65   70   75   80

Leu Ser Ala Ile Val Leu Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly
                85   90   95

Phe Phe Gly Ile Asp Phe Val Gln Ser Phe Thr Ser Arg Glu Asn Glu
            100   105   110

Gln Leu Asn Asn Asp Asp His Asn Val Val Ser Thr Asn Asn Val Leu
        115   120   125

Ser Asp Arg Arg Leu Val Tyr Asp Tyr Gly Phe Asp Val Thr Gly Asp
    130   135   140

Asn Asp Asn Asp Asn Asp Asp Asp Val Ile Val Lys Ser Val Val Ser
145   150   155   160

Gly Glu Val Asn Ser Tyr Ser Leu Glu Ala Ser Leu Gly Asp Cys Tyr
                165   170   175

Arg Ala Ala Lys Ile Arg Lys Arg Ala Val Glu Arg Ile Val Gly Arg
            180   185   190

Glu Val Leu Gly Leu Gly Phe Glu Gly Phe Asp Tyr Glu Ser Ile Leu
        195   200   205

Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val Gln Val Pro Val Gly
    210   215   220

Val Ala Gly Pro Leu Leu Leu Asn Gly Gly Glu Phe Met Val Pro Met
225   230   235   240

Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys
            245   250   255

Ala Ile Cys Leu Ser Gly Gly Ala Thr Ala Ile Leu Leu Lys Asp Gly
        260   265   270

Met Thr Arg Ala Pro Val Val Arg Phe Ala Thr Ala Glu Arg Ala Ser
        275   280   285

Gln Leu Lys Phe Tyr Leu Glu Asp Gly Val Asn Phe Asp Thr Leu Ser
    290   295   300

Val Val Phe Asn Lys Ser Ser Arg Phe Ala Arg Leu Gln Asn Ile Gln
305   310   315   320

Cys Ser Ile Ala Gly Lys Asn Leu Tyr Ile Arg Phe Thr Cys Ser Thr
            325   330   335

Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val
            340   345   350

Leu Asp Phe Leu Gln Asn Asp Phe Pro Asp Met Asp Val Ile Gly Ile
        355   360   365

Ser Trp Lys Phe Cys Ser Asp Lys Lys Pro Thr Ala Val Asn Trp Ile
    370   375   380

Glu Gly Arg Gly Lys Ser Val Val Phe Gln Ala Val Ile Thr Lys Lys
385   390   395   400

Val Val Arg Lys Ser Ala Leu Asn Pro Gln Thr Cys Thr Cys Arg Thr
            405   410   415

Leu Thr Cys Leu Arg Pro Leu Leu Val Leu Leu Leu Leu Val Leu Leu
            420   425   430

Val Asp Leu Met His Met Leu His Ile Val Ser Ala Val Phe Ile Ala
            435   440   445

Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser Ser His Cys Ile Thr
    450   455   460

```
Met Met Glu Ala Val Asn Asn Gly Lys Asp Leu His Val Asn Val Thr
465             470             475             480

Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala
                485             490             495

Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Cys Ile
            500             505             510

Glu Ser Pro Gly Ser Asn Ala Gln Leu Leu Ala Arg Ile Val Ala Gly
            515             520             525

Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly
        530             535             540

Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser Arg Asp Met
545             550             555             560

Ser Ala Ile Ala Ser Lys Val
                565


<210>   318
<211>   428
<212>   PRT
<213>   Pseudomonas mevalonii

<400>   318

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
1               5               10              15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
            20              25              30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
        35              40              45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
    50              55              60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
65              70              75              80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
            85              90              95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
            100             105             110
```

```
His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
        115               120             125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
        130               .135             140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
145               150               155               160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
            165               170               175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
            180               185               190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
        195               200               205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
        210               215               220

Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
225               230               235               240

Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
            245               250               255

Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
            260               265               270

Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
            275               280               285

Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
    290           .   295 .             300

Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
305               310               315               320

Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
            325               330               335

Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
        340               345               350
```

Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
        355   360   365

Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
        370   375   380

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
385   390   395   400

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
                405   410   415

Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
            420   425

<210>   319
<211>   428
<212>   PRT
<213>   Pseudomonas mevalonii

<400>   319

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
1   5   10   15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
            20   25   30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
            35   40   45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
        50   55   60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
65   70   75   80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
                85   90   95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
            100   105   110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
        115   120   125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
145   150   155   160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
                165   170   175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
            180   185   190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
        195   200   205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
        210   215   220

Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
225   230   235   240

Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
            245   250   255

Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
            260   265   270

Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
        275   280   285

Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
    290   295   300

Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
305   310   315   320

Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
            325   330   335

Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
            340   345   350

Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
        355   360   365

Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
    370   375   380

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
385   390   395   400

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
                    405   410   415

Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
                420   425

<210>   320
<211>   428
<212>   PRT
<213>   Pseudomonas mevalonii

<400>   320

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
1   5   10   15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
                20   25   30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
                35   40   45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
    50   55   60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
65   70   75   80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
                85   90   95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
                100   105   110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
            115   120   125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
    130   135   140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
145   150   155   160
                                                        .

```
Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
            165             170             175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
            180             185             190

Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
            195             200             205

Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
    210             215             220

Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
225             230             235             240

Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
            245             250             255

Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
            260             265             270

Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
            275             280             285

Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
    290             295             300

Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
305             310             315             320

Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
            325             330             335

Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
            340             345             350

Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
            355             360             365

Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
    370             375             380

His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
385             390             395             400

Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
```

Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
            420   425

<210> 321
<211> 428
<212> PRT
<213> Pseudomonas mevalonii

<400> 321

Met Ser Leu Asp Ser Arg Leu Pro Ala Phe Arg Asn Leu Ser Pro Ala
1   5   10   15

Ala Arg Leu Asp His Ile Gly Gln Leu Leu Gly Leu Ser His Asp Asp
            20   25   30

Val Ser Leu Leu Ala Asn Ala Gly Ala Leu Pro Met Asp Ile Ala Asn
            35   40   45

Gly Met Ile Glu Asn Val Ile Gly Thr Phe Glu Leu Pro Tyr Ala Val
    50   55   60

Ala Ser Asn Phe Gln Ile Asn Gly Arg Asp Val Leu Val Pro Leu Val
65   .   70   75   80

Val Glu Glu Pro Ser Ile Val Ala Ala Ala Ser Tyr Met Ala Lys Leu
            85   90   95

Ala Arg Ala Asn Gly Gly Phe Thr Thr Ser Ser Ser Ala Pro Leu Met
            100   105   110

His Ala Gln Val Gln Ile Val Gly Ile Gln Asp Pro Leu Asn Ala Arg
            115   120   125

Leu Ser Leu Leu Arg Arg Lys Asp Glu Ile Ile Glu Leu Ala Asn Arg
    130   135   140

Lys Asp Gln Leu Leu Asn Ser Leu Gly Gly Gly Cys Arg Asp Ile Glu
145   150   155   160

Val His Thr Phe Ala Asp Thr Pro Arg Gly Pro Met Leu Val Ala His
            165   170   175

Leu Ile Val Asp Val Arg Asp Ala Met Gly Ala Asn Thr Val Asn Thr
            180   185   190

```
Met Ala Glu Ala Val Ala Pro Leu Met Glu Ala Ile Thr Gly Gly Gln
        195                 200                 205


Val Arg Leu Arg Ile Leu Ser Asn Leu Ala Asp Leu Arg Leu Ala Arg
        210                 215                 220


Ala Gln Val Arg Ile Thr Pro Gln Gln Leu Glu Thr Ala Glu Phe Ser
225                 230                 235                 240


Gly Glu Ala Val Ile Glu Gly Ile Leu Asp Ala Tyr Ala Phe Ala Ala
                245                 250                 255


Val Asp Pro Tyr Arg Ala Ala Thr His Asn Lys Gly Ile Met Asn Gly
                260                 265                 270


Ile Asp Pro Leu Ile Val Ala Thr Gly Asn Asp Trp Arg Ala Val Glu
            275                 280                 285


Ala Gly Ala His Ala Tyr Ala Cys Arg Ser Gly His Tyr Gly Ser Leu
        290                 295                 300


Thr Thr Trp Glu Lys Asp Asn Asn Gly His Leu Val Gly Thr Leu Glu
305                 310                 315                 320


Met Pro Met Pro Val Gly Leu Val Gly Gly Ala Thr Lys Thr His Pro
                325                 330                 335


Leu Ala Gln Leu Ser Leu Arg Ile Leu Gly Val Lys Thr Ala Gln Ala
            340                 345                 350


Leu Ala Glu Ile Ala Val Ala Val Gly Leu Ala Gln Asn Leu Gly Ala
        355                 360                 365


Met Arg Ala Leu Ala Thr Glu Gly Ile Gln Arg Gly His Met Ala Leu
    370                 375                 380


His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
385                 390                 395                 400


Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
                405                 410                 415


Arg Ala Val Ala Leu Leu Lys Gln Lys Arg Gly Gln
            420                 425
```

<210> 322
<211> 560
<212> PRT
<213> Oryza sativa

<400> 322

Met Glu Val Arg Arg Arg Ala Pro Leu Pro Pro Pro Gly Arg Val
1   5   10   15

Gln Ala Gly Asp Ala Leu Pro Leu Pro Ile Arg His Thr Asn Leu Ile
            20   25   30

Phe Ser Ala Leu Phe Ala Ala Ser Leu Ala Tyr Leu Met Arg Arg Trp
            35   40   45

Arg Glu Lys Ile Arg Ser Ser Thr Pro Leu His Val Val Gly Leu Ala
        50   55   60

Glu Met Leu Ala Ile Phe Gly Leu Val Ala Ser Leu Ile Tyr Leu Leu
65   70   75   80

Ser Phe Phe Gly Ile Ala Phe Val Gln Ser Ile Val Ser Ser Ser Asp
                85   90   95

Asp Glu Glu Glu Asp Phe Leu Val Gly Pro Ala Arg Gly Ser Ser Ala
            100   105   110

Ala Ala Ala Val Ala Pro Arg Ala Pro Ser Ser Pro Ala Gln Cys Ser
            115   120   125

Leu Leu Gly Ser Pro His Asp Asp Ala Ala Arg Glu Arg Met Pro Glu
    130   135   140

Glu Asp Glu Glu Ile Val Ser Ser Val Val Ala Gly Lys Val Pro Ser
145   150   155   160

Tyr Val Leu Glu Thr Lys Leu Gly Asp Cys Arg Arg Ala Ala Gly Ile
                165   170   175

Arg Arg Glu Ala Val Arg Arg Ile Thr Gly Arg Gln Ile Glu Gly Leu
            180   185   190

Pro Leu Asp Gly Phe Asp Tyr Ala Ser Ile Leu Gly Gln Cys Cys Glu
            195   200   205

Leu Pro Val Gly Tyr Val Gln Leu Pro Val Gly Ile Ala Gly Pro Leu
    210   215   220

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Leu Leu Asp Gly Gln Arg Phe Tyr Val Pro Met Ala Thr Thr Glu Gly
225   230   235   240

Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Ala Glu Ser
            245   250   255

Gly Gly Ala Val Ser Val Val Leu Arg Asp Gly Met Thr Arg Ala Pro
            260   265   270

Val Ala Arg Leu Pro Thr Ala Arg Arg Ala Ala Glu Leu Lys Ala Phe
        275   280   285

Leu Glu Asp Ser Val Asn Phe Asn Thr Leu Ser Met Val Phe Asn Arg
        290   295   300   .

Ser Ser Arg Phe Ala Arg Leu Gln Gly Val Gln Cys Ala Met Ala Gly
305   310   315   320

Arg Asn Leu Tyr Met Arg Phe Ser Cys Cys Thr Gly Asp Ala Met Gly
            325   330   335
                        .

Met Asn Met Val Ser Lys Gly Glu Gln Asn Val Leu Asp Tyr Leu Gln
            340   345   350

Asp Asp Phe Pro Asp Met Asp Val Ile Ser Ile Ser Gly Asn Phe Cys
        355   360   365

Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
    370   375   380

Ser Val Val Cys Glu Ala Val Ile Lys Glu Asp Val Val Lys Lys Val
385   390   395   400

Leu Lys Thr Asn Val Gln Ser Leu Val Glu Leu Asn Val Ile Lys Asn
            405   410   415

Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly Gly Phe Asn Ala His
            420   425   430

Ala Ser Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
        435   440   445

Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met Leu Glu Ala Val
    450   455   460

Asn Asp Gly Arg Asp Leu His Ile Ser Val Thr Met Pro Ser Ile Glu
465   470   475   480

Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys
                485   490   495

Leu Asp Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ser Pro Gly Ser
            500   505   510

Asn Ala Arg Leu Leu Ala Thr Val Val Ala Gly Gly Val Leu Ala Gly
            515   520   525

Glu Leu Ser Leu Leu Ser Ala Leu Arg Ala Gly Gln Leu Val Lys Ser
    530   535   540

His Met Lys Tyr Asn Arg Ser Ser Lys Asp Met Ser Lys Val Ile Ser
545   550   555   560

<210>   323
<211>   587
<212>   PRT
<213>   Cucumis melo

<400>   323

Met Asp Arg Arg Arg Ser Leu Arg Pro Pro Arg Pro Asn Ala Val Gln
1   5   10   15

Asp Ala Asp Ala Thr Cys Thr Phe Arg Arg Asp Glu Gln Asp Ala Ser
                20   25   30

Ala Ala Asp His Leu Lys Arg Ala Ser Pro Lys Ala Ser Asp Ala Leu
            35   40   45

Pro Leu Pro Leu Tyr Leu Thr Asn Thr Ile Phe Phe Thr Leu Phe Phe
    50   55   60

Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys Ile Arg Asn
65   70   75   80

Ser Thr Pro Leu His Val Val Thr Leu Ser Glu Ile Ala Ala Ile Val
                85   90   95

Ser Leu Met Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly Ile Asp
            100   105   110

Phe Val Gln Ser Phe Ile Ala Arg Ser Ser Pro Asp Ala Trp Asp Leu

```
              115                    120                      125


Glu Asp Glu Ile Asp Arg Thr Leu Leu Ile Asp Asn Asn Arg Tyr Ala
    130             135             140


Ala Pro Arg Ser Ala Ser Ala Val Ala Leu Pro Ser Lys Val Val Asp
145             150             155                     160


Ala Glu Ala Leu Asn Thr Ile Pro Leu Pro Glu Glu Asp Glu Glu Val
                165             170             175


Val Lys Met Val Val Asp Gly Ser Val Pro Ser Tyr Ser Leu Glu Ser
            180             185             190


Lys Leu Gly Asp Pro Lys Arg Ala Ala Ser Ile Arg Arg Glu Ala Leu
        195             200             205


Gln Arg Thr Thr Gly Arg Ser Ile His Gly Leu Pro Phe Glu Gly Phe
    210             215             220


Asp Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr
225             230             235                     240


Val Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Phe
            245             250             255


Glu Tyr Thr Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
            260             265             270


Thr Asn Arg Gly Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Ser
        275             280             285


Met Leu Leu Lys Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Gly
    290             295             300


Ser Ala Lys Arg Ala Ser Glu Leu Lys Phe Phe Leu Glu Asp Pro Ser
305             310             315                     320


Asn Phe Asp Thr Leu Ala Val Val Phe Asn Arg Ser Ser Arg Phe Ala
                325             330             335


Arg Leu Gln Ser Ile Arg Cys Ser Ile Ala Gly Lys Asn Leu Tyr Val
            340             345             350


Arg Phe Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser
        355             360             365
```

Lys Gly Val Gln Asn Val Leu Glu Phe Leu Gln His Asp Phe Ser Asp
    370   375   380

Met Glu Val Ile Gly Ile Ser Gly Asn Phe Cys Ala Asp Lys Lys Pro
385   390   395   400

Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu
                405   410   415

Ala Val Ile Lys Asp Glu Val Val Arg Lys Val Leu Lys Thr Ser Val
            420   425   430

Ala Ser Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala
        435   440   445

Met Ala Gly Ala Leu Gly Gly Phe Asn Ala His Ser Ser Asn Ile Val
    450   455   460

Ser Ala Ile Phe Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu
465   470   475   480

Ser Ser His Cys Ile Thr Met Met Glu Pro Val Asn Asn Gly Arg Asp
                485   490   495

Leu His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly
        500   505   510

Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly
        515   520   525

Val Lys Gly Ala Ser Lys Glu Ser Pro Gly Ala Asn Ser Arg Leu Leu
    530   535   540

Ala Thr Ile Val Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met
545   550   555   560

Ser Ala Ile Ala Ala Gly Gln Leu Val Arg Ser His Met Lys Tyr Asn
                565   570   575

Arg Ser Ser Arg Asp Val Ser Lys Leu Glu Ser
            580   585

<210>   324
<211>   121
<212>   PRT

<213> Glycine max

<400> 324

Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Glu
1   5   10   15

Val Val Gln Lys Val Leu Lys Thr Asn Val Ser Ala Leu Val Glu Leu
            20   25   30

Asn Met Leu Lys Asn Leu Ala Gly Ser Ala Val Ala Gly Ala Leu Gly
        35   40   45

Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Ile Phe Ile Ala
        50   55   60

Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr
65   70   75   80

Met Met Glu Ala Ile Asn Asp Gly Arg Asp Leu His Ile Ser Val Thr
                85   90   95

Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala
            100   105   110

Ser Gln Ser Ala Cys Leu Asn Leu Leu
        115   120

<210> 325
<211> 236
<212> PRT
<213> Schistosoma mansoni

<400> 325

Met Leu Lys Ile Leu Asn Thr Val Leu Leu Phe Phe Asp Cys Phe Ser
1   5   10   15

Thr Gly Thr Phe Phe Val Leu Leu Ile Tyr Leu Phe Thr Arg Leu Arg
            20   25   30

Thr His Leu Leu His Phe Ser Ser Ser Asn Cys His Leu Asp Val Ile
        35   40   45

Ile Tyr Gln Ser Arg Ala Val Ile Ile Phe Leu Val Val Phe Val Tyr
        50   55   60

Phe Ile Gly Val Leu Thr Cys Lys Ile Asn Asp Lys Ile Leu Val His
65   70   75   80

```
Thr Met Leu Arg Asn Lys Arg Gln Leu Asn Thr Leu Phe Tyr Thr Leu
                85                  90                  95


Ile Leu Phe Thr Phe Ala Leu Cys Ser Leu Ser Ser Val Leu Phe Val
            100                 105                 110


Pro Tyr Thr Ser Phe Ala Ile Phe Leu Leu Ser Thr Ser Val Phe Leu
            115                 120                 125


Leu Phe Ser Asp Leu Ser Val Phe Phe Ile Val Leu Glu Tyr Tyr Leu
        130                 135                 140


Leu Glu Ile Glu Leu Val Asn Tyr Glu His Ala Lys Arg His Cys Leu
145                 150                 155                 160


Leu Ser His Leu Phe Ser Asn Gln Leu Phe Val Asp His Met Leu Gly
                165                 170                 175


Met Phe Leu Lys Thr Ser Leu Phe Ser Ile Ser Thr Thr Ser Lys Tyr
            180                 185                 190


Ala Tyr Leu Glu Ser Ile Phe Lys Cys Thr Leu Met Glu Gln Ile Ile
            195                 200                 205


Tyr Ile Met Ile Val Phe Val Phe Leu Pro Ser Phe Met Arg Ile Phe
    210                 215                 220


Ala Ser Tyr Ala Lys Arg Met Tyr Gly Glu Gln Lys
225                 230                 235


<210>    326
<211>    18
<212>    PRT
<213>    Solanum tuberosum

<400>    326

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
1               5                   10                  15


Ile Ser



<210>    327
<211>    82
<212>    PRT
<213>    Solanum tuberosum
```

<400> 327

Met Asp Val Cys Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Phe Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
            35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
    50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 328
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 328

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
            35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
    50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 329
<211> 82
<212> PRT

<213>   Solanum tuberosum

<400>   329

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Arg Leu Phe Phe
        35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
    50   55   60

Lys Ile Arg Asn Ser Ile Pro Phe His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210>   330
<211>   82
<212>   PRT
<213>   Solanum tuberosum

<400>   330

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
        35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
    50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210>   331
<211>   82

<212> PRT
<213> Solanum tuberosum

<400> 331

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
            35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Ile Arg Trp Arg Glu
        50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Ala Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 332
<211> 59
<212> PRT
<213> Solanum tuberosum

<400> 332

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Tyr Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
            35   40   45

Thr Met Phe Ser Leu Leu Cys Ile Phe Phe Ser
        50   55

<210> 333
<211> 934
<212> PRT
<213> Pichia jadinii

<400> 333

Met Phe Tyr His Gly Ala Ser Ala Asn Gln His Trp Ile Ala Val Asp
1   5   10   15

25156216   - 595 -

```
Asp Leu Ser Lys Val Pro Val Asp Val Asp His Tyr Asn Val Val Pro
            20              25              30

Phe Gln Phe Arg Arg Ala Gly Glu Tyr Lys Glu Pro Val Leu Ser Gly
            35  .              40              45

Ile Val Glu Leu Asp Glu Val Lys Phe Val Val Ser Gln Ser Asp Ala
    50              55              60

Ala Glu Gln Trp Gln Gln Leu Thr Ala Glu Asp Gly Thr Val Trp Arg
65                  70              75                  80

Ser Arg Ala Tyr His Gly Lys Leu Gly Lys Tyr Ser Asp Met Ala Val
                85              90                  95

Gly Ala Phe Asn Lys Val Leu Asn Leu Val Arg Gly Ala Glu Thr Phe
            100             105             110

Asp Ile Ala Leu Val Thr Cys Ala Tyr Ile Ala Met Phe Tyr Thr Leu
            115             120             125

Phe Asn Leu Phe Ala Arg Met Arg Ala Val Gly Ser Lys Val Trp Leu
    130             135             140

Gly Leu Ser Thr Leu Val Ser Ser Phe Phe Ala Phe Leu Phe Ala Leu
145             150             155             160

Tyr Ile Thr Thr Arg Val Leu Asp Leu Ser Ile Pro Phe Leu Ser Leu
            165             170             175

Ser Glu Gly Ile Pro Phe Phe Val Ala Val Val Gly Phe Asn Asn Lys
            180             185             190

Ile Leu Leu Ala Glu Lys Val Leu Gln Asn Gln Leu Asn Ala Gln Ser
            195             200             205

Ser Lys Asn Asp Ala Pro Thr Val Leu Tyr Gln Ala Leu Arg Glu Gln
    210             215             220

Gly Pro Leu Leu Leu Arg Asp His Leu Phe Met Ile Thr Ala Phe Leu
225             230             235             240

Gly Cys Ser Phe Tyr Ala Ser Tyr Leu Asp Gly Leu Lys Asn Phe Cys
            245             250             255
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25156216   - 596 -

```
Ile Leu Ala Ala Leu Ile Leu Ala Phe Asp Ile Leu Thr Thr Ser Thr
        260                 265             270

Phe Leu Ser Ala Ile Leu Ser Leu Lys Leu Glu Ile Asn Gln Ile His
        275                 280             285

Arg Ser Thr Leu Leu Arg Glu Gln Leu Glu Asp Asp Gly Leu Thr Glu
    290             295             300

Thr Thr Val Asp Asp Val Leu Lys Ser Asn Ser Leu Ala Gly Thr Lys
305             310             315                 320

Thr Phe Thr Asp Ala Pro Ser Thr Leu Val Thr Val Ala Lys Val Ala
            325             330             335

Gly Val Ser Val Phe Phe Gly Leu His Phe Tyr Gly Phe Gly Ser Ala
        340             345             350

Trp Leu Ser Asp Leu Ser Ala Gly Asn Glu Thr Asn Asp Thr Phe Thr
        355             360             365

Leu Tyr Asp Ala Val Ala Asp Gln Ile Pro Ile Gly Ser Asn Gly Thr
    370             375             380

Leu Val Thr Leu Phe Pro Thr Arg Phe Phe Leu Pro Glu Lys Leu Ser
385             390             395                 400

Thr Gln Ile Glu Ala Val Val Leu Ser Phe Ile Gly Leu Ile Ser Thr
            405             410             415

Ala Ala Arg Asp Lys Tyr Ile Ser Lys Phe Ile Leu Phe Ala Phe Ala
        420             425             430

Val Ser Ala Ser Ile Asn Val Tyr Leu Leu Asn Val Ala Arg Ile His
        435             440             445

Thr Thr Arg Leu Glu Asp Ala Ile Glu Leu Lys Lys Pro Lys Lys Lys
    450             455             460

Ala Ser Lys Thr Ala Val Ser Val Pro Lys Ala Val Val Val Lys Asp
465             470             475                 480

Ser Glu Thr Thr Lys Ser Ser Glu Ile Leu His Ser Ser Ser Glu Ser
            485             490             495
```

Glu Ser Glu Gln Ser Ser Arg Pro Leu Glu Gln Val Ile Glu Leu Tyr
        500   505   510

Lys Asp Gly Lys Val Lys Thr Leu Val Asp Asp Glu Val Val Ser Leu
        515   520   525

Val Thr Ala Gly Lys Leu Pro Leu Tyr Ala Leu Glu Lys Gln Leu Gly
        530   535   540

Asp Asn Leu Arg Ala Val Ala Ile Arg Arg Lys Ala Ile Ser Asp Leu
545   550   555   560

Ala Asp Ala Pro Val Leu Arg Ser Asn Lys Leu Pro Tyr Leu His Tyr
        565   570   575

Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
        580   585   590

Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys
        595   600   605

Pro Tyr His Ile Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser
        610   615   620

Ala Met Arg Gly Cys Lys Ala Ile Asn Leu Gly Gly Gly Val Thr Thr
625   630   635   640

Val Leu Thr Lys Asp Gly Met Thr Arg Gly Pro Cys Val Lys Phe Pro
        645   650   655

Ser Leu Lys Arg Ala Gly Gln Cys Lys Leu Trp Leu Asp Ser Asp Glu
        660   665   670

Gly Gln Glu Glu Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
        675   680   685

Arg Leu Gln His Leu Gln Thr Ala Leu Ala Gly Asp Leu Leu Phe Ile
        690   695   700

Arg Phe Arg Thr Val Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
705   710   715   720

Lys Gly Val Glu Tyr Ala Leu Lys Gln Met Thr Glu Val Phe Gly Trp
        725   730   735

Asp Asp Met Met Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys

25156216   - 598 -

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                740                        745                        750

Lys Pro Ala Ala Val Asn Trp Ile Asn Gly Arg Gly Lys Ser Val Val
        755                 760                 765

Ala Glu Ala Ser Ile Pro Lys Asp Ala Val Val Lys Val Leu Lys Ser
        770                 775                 780

Ser Val Lys Ala Val Val Asp Val Asn Val Asn Lys Asn Leu Ile Gly
785                 790                 795                 800

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala Gln Ala Ala Asn
                805                 810                 815

Met Val Thr Ala Val Tyr Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn
                820                 825                 830

Val Glu Ser Ser Asn Cys Ile Thr Leu Met Thr Glu Thr Glu Asp Gly
        835                 840                 845

Asp Leu Lys Val Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile
        850                 855                 860

Gly Gly Gly Thr Ile Leu Asp Pro Gln Gly Ser Met Leu Glu Leu Leu
865                 870                 875                 880

Gly Val Arg Gly Pro Ala Asp Val Pro Gly Glu Asn Ala Arg Gln Leu
                885                 890                 895

Ala Lys Ile Val Ala Ser Ile Val Leu Ser Gly Glu Leu Ser Leu Val
                900                 905                 910

Ser Ala Leu Ala Ala Gly His Leu Val Gln Ser His Met Gln His Asn
        915                 920                 925

Arg Ala Ala Ala Lys Lys
        930


<210>   334
<211>   628
<212>   PRT
<213>   Gossypium hirsutum

<400>   334

Met Glu Ala Ser Arg Arg Ser Ala Val Lys Pro Val Ile Val Leu Lys
1               5                   10                  15
```

Pro Ser Lys Arg Phe Pro Leu Val Glu Asp Thr Pro Gly Lys Ala Ser
        20   25   30

Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
        35   40   45

Leu Phe Phe Thr Val Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys
        50   55   60

Ile Arg Ala Ser Ile Pro Leu His Ala Val Thr Phe Pro Glu Ile Val
65   70   75   80

Ala Ile Phe Ala Phe Val Ala Ser Leu Ile Tyr Leu Leu Gly Phe Phe
                85   90   95

Gly Ile Asp Phe Val Gln Ser Leu Ile Ile Arg Pro Ser Gly Asp Val
                100   105   110

Trp Ser Gly Glu Asp Tyr Glu Glu Glu Asn Glu Val Leu Leu His Glu
        115   120   125

Glu Asp Ala Arg Thr Val Pro Cys Gly Gln Ala Leu Asp Cys Ser Val
        130   135   140

Pro Ser Leu Pro His Met Ala Arg Asn Val Thr Ala Gln Arg Leu Phe
145   150   155   160

Asp Glu Lys Pro Val Arg Val Ala Thr Glu Glu Asp Ala Arg Lys Val
                165   170   175

Ser Cys Gly Gln Ala Val Asp Cys Ser Leu His Ser Leu Pro Pro Arg
                180   185   190

Pro Pro Ile Val Thr Ser Gln Lys Leu Phe His Glu Lys Thr Val Ile
        195   200   205

Val Thr Thr Glu Glu Asp Glu Glu Ile Ile Lys Ser Val Val Ala Gly
        210   215   220

Thr Leu Pro Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg
225   230   235   240

Ala Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg Leu Thr Gly Arg Ser
                245   250   255

Leu Ser Gly Leu Pro Leu Asp Gly Phe Asp Tyr Glu Ser Ile Leu Gly
          260   265   270

Gln Cys Cys Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile
          275   280   285

Ala Gly Pro Leu Leu Leu Asn Gly Arg Glu Tyr Ser Val Pro Met Ala
    290   295   300

Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala
305   310   315   320

Ile His Leu Ser Gly Gly Ala Thr Ser Ile Leu Leu Lys Asp Gly Met
              325   330   335

Thr Arg Ala Pro Val Val Arg Phe Ser Thr Ala Lys Arg Ala Ala Glu
          340   345   350

Leu Lys Phe Tyr Leu Glu Asp Pro Glu Asn Phe Asp Thr Leu Ala Val
          355   360   365

Val Phe Asn Arg Ser Ser Arg Phe Gly Arg Leu Gln Ser Ile Lys Cys
    370   375   380

Ala Ile Ala Gly Lys Asn Leu Tyr Leu Arg Phe Thr Cys Ser Thr Gly
385   390   395   400

Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu
              405   410   415

Asp Phe Leu Gln Thr Asp Phe Pro Asp Met Asp Val Ile Gly Ile Ser
          420   425   430

Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu
          435   440   445

Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Glu Gly Asp Val
    450   455   460

Val Arg Lys Val Leu Lys Thr Ser Val Glu Ser Leu Val Glu Leu Asn
465   470   475   480

Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly
              485   490   495

Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala Ile Tyr Ile Ala Thr

Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser His Cys Ile Thr Met
        515   520   525

Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met
        530   · 535   540

Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser
545   550   555   560

Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Ser Lys Asp
                565   570   575

Val Ala Gly Ala Asn Ser Arg Met Leu Ala Thr Ile Val Thr Gly Ala
        580   585   590

Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly Gln
        595   600   605

Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser Ser Lys Asp Met Ser
        610   615   620

Asn Leu Ser Ser
625

<210>   335
<211>   585
<212>   PRT
<213>   Gossypium hirsutum

<400>   335

Met Glu Thr His Arg Arg Ser Ser Thr Asn Ser Ile Arg Ser His Lys
1   5   10   15

Pro Ala Arg Pro Ile Ala Leu Glu Asp Asp Ser Thr Lys Ala Ser Asp
          20   25   30

Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr Leu
          35   40   45

Phe Phe Ser Ala Val Tyr Phe Leu Leu Cys Arg Trp Arg Glu Lys Ile
      50   55   60

Arg Ser Ser Thr Pro Leu His Val Val Thr Phe Ser Glu Ile Val Ala
65   70   75   80

```
Ile Leu Ala Ser Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe Gly
                85              90                  95


Ile Asp Phe Val Gln Ser Leu Val Leu Arg Pro Ser Ala Asp Val Trp
            100             105             110


Ala Thr Glu Asp Asp Glu Val Glu Ser Glu Val Leu Leu Arg Asn Glu
        115             120             125


Asp Ala Arg His Val Pro Cys Gly Gln Ala Leu Asp Arg Ser Ile Arg
    130             135             140


Ser Leu Gln Pro Pro Glu Pro Ile Val Thr Ala Glu Lys Val Phe Asp
145             150             155             160


Glu Met Pro Val Thr Val Met Thr Glu Glu Asp Glu Glu Ile Ile Arg
            165             170             175


Ser Val Val Cys Gly Met Thr Pro Ser Tyr Ser Leu Glu Ser Lys Leu
            180             185             190


Asp Asp Cys Lys Arg Ala Ala Ala Ile Arg Arg Glu Ala Leu Gln Arg
        195             200             205


Ile Thr Gly Lys Ser Leu Ser Gly Leu Pro Leu Asp Gly Phe Asp Tyr
    210             215             220


Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Glu Gln
225             230             235             240


Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Arg Glu Tyr
            245             250             255


Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn
            260             265             270


Arg Gly Cys Lys Ala Ile His Leu Ser Gly Gly Ala Thr Ser Val Leu
            275             280             285


Leu Arg Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Gly Thr Ala
    290             295             300


Lys Arg Ala Ala Asp Leu Lys Leu Tyr Leu Glu Asp Pro Glu Asn Phe
305             310             315             320
```

```
Glu Thr Leu Ala Cys Val Phe Asn Arg Ser Ser Arg Phe Ala Arg Leu
            325             330             335

Gln Ser Ile Lys Cys Ala Ile Ala Gly Lys Asn Leu Tyr Leu Arg Phe
            340             345             350

Ser Cys Phe Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly
            355             360             365

Val Gln Asn Val Leu Asp Phe Leu Gln Thr Asp Phe Pro Asp Met Asp
    370             375             380

Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala
385             390             395             400

Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile
            405             410             415

Ile Asn Gly Asp Val Val Thr Lys Val Leu Lys Thr Ser Val Glu Ser
            420             425             430

Leu Val Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala
            435             440             445

Gly Ala Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Thr Ala
    450             455             460

Val Tyr Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
465             470             475             480

His Cys Ile Thr Met Met Glu Ala Val Asn Gly Gly Lys Asp Leu His
            485             490             495

Val Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly
            500             505             510

Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys
            515             520             525

Gly Ala Ser Lys Glu Ser Pro Gly Ala Asn Ser Ile Leu Leu Ala Thr
    530             535             540

Ile Val Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala
545             550             555             560

Leu Ala Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr Asn Arg Ser
```

Ser Lys Asp Val Ser Lys Val Ser Ser
              580   585

<210>   336
<211>   1045
<212>   PRT
<213>   Saccharomyces cerevisiae

<400>   336

Met Ser Leu Pro Leu Lys Thr Ile Val His Leu Val Lys Pro Phe Ala
1   5   10   15

Cys Thr Ala Arg Phe Ser Ala Arg Tyr Pro Ile His Val Ile Val Val
              20   25   30

Ala Val Leu Leu Ser Ala Ala Ala Tyr Leu Ser Val Thr Gln Ser Tyr
        35   40   45

Leu Asn Glu Trp Lys Leu Asp Ser Asn Gln Tyr Ser Thr Tyr Leu Ser
    50   55   60

Ile Lys Pro Asp Glu Leu Phe Glu Lys Cys Thr His Tyr Tyr Arg Ser
65   70   75   80

Pro Val Ser Asp Thr Trp Lys Leu Leu Ser Ser Lys Glu Ala Ala Asp
              85   90   95

Ile Tyr Thr Pro Phe His Tyr Tyr Leu Ser Thr Ile Ser Phe Gln Ser
              100   105   110

Lys Asp Asn Ser Thr Thr Leu Pro Ser Leu Asp Asp Val Ile Tyr Ser
        115   120   125

Val Asp His Thr Arg Tyr Leu Leu Ser Glu Glu Pro Lys Ile Pro Thr
    130   135   140

Glu Leu Val Ser Glu Asn Gly Thr Lys Trp Arg Leu Arg Asn Asn Ser
145   150   155   160

Asn Phe Ile Leu Asp Leu His Asn Ile Tyr Arg Asn Met Val Lys Gln
              165   170   175

Phe Ser Asn Lys Thr Ser Glu Phe Asp Gln Phe Asp Leu Phe Ile Ile
              180   185   190

Leu Ala Ala Tyr Leu Thr Leu Phe Tyr Thr Leu Cys Cys Leu Phe Asn
        195   200   205

Asp Met Arg Lys Ile Gly Ser Lys Phe Trp Leu Ser Phe Ser Ala Leu
    210   215   220

Ser Asn Ser Ala Cys Ala Leu Tyr Leu Ser Leu Tyr Thr Thr His Ser
225   230   235   240

Leu Leu Lys Lys Pro Ala Ser Leu Leu Ser Leu Val Ile Gly Leu Pro
                245   250   255

Phe Ile Val Val Ile Ile Gly Phe Lys His Lys Val Arg Leu Ala Ala
            260   265   270

Phe Ser Leu Gln Lys Phe His Arg Ile Ser Ile Asp Lys Lys Ile Thr
        275   280   285

Val Ser Asn Ile Ile Tyr Glu Ala Met Phe Gln Glu Gly Ala Tyr Leu
    290   295   300

Ile Arg Asp Tyr Leu Phe Tyr Ile Ser Ser Phe Ile Gly Cys Ala Ile
305   310   315   320

Tyr Ala Arg His Leu Pro Gly Leu Val Asn Phe Cys Ile Leu Ser Thr
            325   330   335

Phe Met Leu Val Phe Asp Leu Leu Leu Ser Ala Thr Phe Tyr Ser Ala
            340   345   350

Ile Leu Ser Met Lys Leu Glu Ile Asn Ile Ile His Arg Ser Thr Val
        355   360   365

Ile Arg Gln Thr Leu Glu Glu Asp Gly Val Val Pro Thr Thr Ala Asp
    370   375   380

Ile Ile Tyr Lys Asp Glu Thr Ala Ser Glu Pro His Phe Leu Arg Ser
385   390   395   400

Asn Val Ala Ile Ile Leu Gly Lys Ala Ser Val Ile Gly Leu Leu Leu
            405   410   415

Leu Ile Asn Leu Tyr Val Phe Thr Asp Lys Leu Asn Ala Thr Ile Leu
        420   425   430

```
Asn Thr Val Tyr Phe Asp Ser Thr Ile Tyr Ser Leu Pro Asn Phe Ile
        435             440             445

Asn Tyr Lys Asp Ile Gly Asn Leu Ser Asn Gln Val Ile Ile Ser Val
        450             455             460

Leu Pro Lys Gln Tyr Tyr Thr Pro Leu Lys Lys Tyr His Gln Ile Glu
465             470             475             480

Asp Ser Val Leu Leu Ile Ile Asp Ser Val Ser Asn Ala Ile Arg Asp
                485             490             495

Gln Phe Ile Ser Lys Leu Leu Phe Phe Ala Phe Ala Val Ser Ile Ser
            500             505             510

Ile Asn Val Tyr Leu Leu Asn Ala Ala Lys Ile His Thr Gly Tyr Met
        515             520             525

Asn Phe Gln Pro Gln Ser Asn Lys Ile Asp Asp Leu Val Val Gln Gln
        530             535             540

Lys Ser Ala Thr Ile Glu Phe Ser Glu Thr Arg Ser Met Pro Ala Ser
545             550             555             560

Ser Gly Leu Glu Thr Pro Val Thr Ala Lys Asp Ile Ile Ile Ser Glu
            565             570             575

Glu Ile Gln Asn Asn Glu Cys Val Tyr Ala Leu Ser Ser Gln Asp Glu
        580             585             590

Pro Ile Arg Pro Leu Ser Asn Leu Val Glu Leu Met Glu Lys Glu Gln
        595             600             605

Leu Lys Asn Met Asn Asn Thr Glu Val Ser Asn Leu Val Val Asn Gly
        610             615             620

Lys Leu Pro Leu Tyr Ser Leu Glu Lys Lys Leu Glu Asp Thr Thr Arg
625             630             635             640

Ala Val Leu Val Arg Arg Lys Ala Leu Ser Thr Leu Ala Glu Ser Pro
            645             650             655

Ile Leu Val Ser Glu Lys Leu Pro Phe Arg Asn Tyr Asp Tyr Asp Arg
        660             665             670

Val Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro
```

Val Gly Val Ile Gly Pro Leu Ile Ile Asp Gly Thr Ser Tyr His Ile
    690   695   700

Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Ala Met Arg Gly
705   710   715   720

Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Thr Thr Val Leu Thr Lys
            725   730   735

Asp Gly Met Thr Arg Gly Pro Val Val Arg Phe Pro Thr Leu Ile Arg
            740   745   750

Ser Gly Ala Cys Lys Ile Trp Leu Asp Ser Glu Glu Gly Gln Asn Ser
            755   760   765

Ile Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu Gln His
    770   775   780

Ile Gln Thr Cys Leu Ala Gly Asp Leu Leu Phe Met Arg Phe Arg Thr
785   790   795   800

Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Val Glu
            805   810   815

Tyr Ser Leu Lys Gln Met Val Glu Glu Tyr Gly Trp Glu Asp Met Glu
            820   825   830

Val Val Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala
            835   840   845

Ile Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Ala Glu Ala Thr
    850   855   860

Ile Pro Gly Asp Val Val Lys Ser Val Leu Lys Ser Asp Val Ser Ala
865   870   875   880

Leu Val Glu Leu Asn Ile Ser Lys Asn Leu Val Gly Ser Ala Met Ala
            885   890   895

Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Leu Val Thr Ala
            900   905   910

Leu Phe Leu Ala Leu Gly Gln Asp Pro Ala Gln Asn Val Glu Ser Ser
            915   920   925

```
Asn Cys Ile Thr Leu Met Lys Glu Val Asp Gly Asp Leu Arg Ile Ser
    930             935             940

Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly Thr Val
945             950             955             960

Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg Gly Pro
            965             970             975

His Pro Thr Glu Pro Gly Ala Asn Ala Arg Gln Leu Ala Arg Ile Ile
            980             985             990

Ala Cys Ala Val Leu Ala Gly Glu Leu Ser Leu Cys Ser Ala Leu Ala
        995             1000            1005

Ala Gly His Leu Val Gln Ser His Met Thr His Asn Arg Lys Thr
    1010            1015            1020

Asn Lys Ala Asn Glu Leu Pro Gln Pro Ser Asn Lys Gly Pro Pro
    1025            1030            1035

Cys Lys Thr Ser Ala Leu Leu
    1040            1045


<210>   337
<211>   574
<212>   PRT
<213>   Solanum tuberosum

<400>   337

Met Asp Val Arg Arg Pro Val Lys Pro Leu Tyr Pro Ser Glu His
1             5             10            15

Ile Ser Ser Gly Glu Pro Leu Lys Pro His Asn Gln Asp Ser Ser Val
            20            25            30

Lys Ala Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Gly Leu
        35            40            45

Phe Phe Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu His Arg Trp
    50            55            60

Arg Glu Lys Ile Arg Asn Gly Ile Pro Leu His Val Leu Asn Phe Ser
65            70            75            80
```

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Glu Leu Val Ala Met Val Ser Leu Ile Ala Ser Val Ile Tyr Leu Leu
             85              90              95

Gly Phe Phe Gly Ile Gly Phe Val Gln Ser Phe Val Ser Lys Gly Asn
            100             105             110

Asn Asp Ser Trp Asp Val Glu Asp Glu Ser Pro Glu Gln Phe Ile Asp
            115             120             125

Arg Thr Val Thr Pro Pro Val Arg Arg Asn Ile Pro Met Lys Ser
    130             135             140

Val Pro Val Ala Glu Lys Thr Ala Gln Ile Ile Thr Pro Phe Ser Ser
145             150             155             160

Glu Asp Asp Glu Val Val Ile Lys Ser Val Glu Gly Arg Ile Pro
            165             170             175

Ser Tyr Ser Leu Glu Ser Lys Leu Gly Asp Cys Lys Arg Ala Ala Phe
            180             185             190

Ile Arg Lys Glu Ala Leu Gln Arg Ser Ser Gly Lys Ser Leu Glu Gly
    195             200             205

Leu Pro Leu Asp Gly Phe Asp Tyr Glu Ser Ile Leu Gly Gln Cys Cys
    210             215             220

Glu Met Pro Ile Gly Tyr Ile Gln Ile Pro Val Gly Ile Ala Gly Pro
225             230             235             240

Leu Leu Leu Asn Gly Lys Glu Phe Ser Val Pro Met Ala Thr Thr Glu
            245             250             255

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys Lys Ala Ile Tyr Val
            260             265             270

Ser Gly Gly Ala Thr Ser Val Leu Phe Arg Asp Ala Met Thr Arg Ala
            275             280             285

Pro Val Val Arg Phe Gly Ser Ala Lys Arg Ala Ala Glu Leu Lys Phe
    290             295             300

Phe Val Glu Asp Pro Met Asn Phe Glu Thr Leu Ser Val Val Phe Asn
305             310             315             320

Lys Ser Ser Arg Phe Ala Arg Leu Gln Asn Ile Gln Cys Ala Ile Ala
```

Gly Lys Asn Leu Tyr Met Arg Phe Ser Cys Ser Thr Gly Asp Ala Met
            340   345   350

Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Asp Tyr Leu
            355   360   365

Gln Asn Glu Tyr Pro Asp Met Asp Ile Ile Gly Ile Ser Gly Asn Tyr
    370   375   380

Cys Ser Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly
385   390   395   400

Lys Ser Val Val Cys Glu Ala Ile Ile Lys Glu Asp Val Val Lys Lys
            405   410   415

Val Leu Lys Thr Glu Val Ala Thr Leu Val Glu Leu Asn Met Leu Lys
            420   425   430

Asn Leu Thr Gly Ser Ala Met Ala Gly Ala Leu Gly Gly Phe Asn Ala
            435   440   445

His Ala Ser Asn Ile Val Ser Ala Val Tyr Leu Ala Thr Gly Gln Asp
    450   455   460

Pro Ala Gln Asn Ile Glu Ser Ser His Cys Ile Thr Met Met Glu Ala
465   470   475   480

Val Asn Asp Gly Lys Asp Leu His Ile Ser Val Thr Met Pro Ser Ile
            485   490   495

Glu Val Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ser Ala
            500   505   510

Cys Leu Asn Leu Leu Gly Val Lys Gly Ala Asn Arg Glu Ala Pro Gly
            515   520   525

Ser Asn Ala Arg Leu Leu Ala Thr Ile Val Ala Gly Ser Val Leu Ala
    530   535   540

Gly Glu Leu Ser Leu Met Ser Ala Ile Ser Ala Gly Gln Leu Val Lys
545   550   555   560

Ser His Met Lys Tyr Asn Arg Ser Cys Lys Asp Val Thr Lys
            565   570

<210> 338
<211> 595
<212> PRT
<213> Solanum tuberosum

<400> 338

Met Asp Val Arg Arg Arg Ser Glu Lys Pro Val Tyr Pro Ser Lys Val
1   5   10   15

Phe Gly Ala Asp Glu Lys Pro Leu Lys Pro His Asn Asn Gln Gln Gln
            20   25   30

Glu Asp Asn Asn Thr Leu Leu Ile Asp Ala Ser Asp Ala Leu Pro Leu
            35   40   45

Pro Leu Tyr Leu Thr Asn Gly Leu Phe Phe Thr Met Phe Phe Ser Val
        50   55   60

Met Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg Asn Ser Thr
65   70   75   80

Pro Leu His Val Val Thr Leu Ser Glu Leu Gly Ala Ile Val Ser Leu
                85   90   95

Ile Ala Ser Val Ile Tyr Leu Leu Gly Phe Phe Gly Ile Gly Phe Val
            100   105   110

Gln Thr Phe Val Ser Arg Gly Asn Asn Asp Ser Trp Asp Glu Asn Asp
        115   120   125

Glu Glu Phe Leu Leu Lys Glu Asp Ser Arg Cys Gly Pro Ala Thr Thr
    130   135   140

Leu Gly Cys Ala Ile Pro Ala Pro Pro Ala Arg Gln Ile Ser Pro Met
145   150   155   160

Ala Pro Pro Gln Pro Ala Met Ser Met Val Glu Lys Pro Ser Pro Leu
            165   170   175

Ile Thr Pro Ala Ser Ser Glu Glu Asp Glu Glu Ile Ile Asn Ser Val
            180   185   190

Val Gln Gly Lys Phe Pro Ser Tyr Ser Leu Val Ile Gln Leu Gly Asp
        195   200   205

Val Ser Ala Ala Ala Ser Leu Arg Lys Glu Val Met Gln Arg Ile Thr
    210   215   220

Gly Lys Ser Leu Glu Gly Leu Pro Leu Glu Gly Phe Thr Tyr Glu Ser
225   230   235   240

Ile Leu Gly Gln Cys Cys Glu Met Pro Ile Gly Tyr Val Gln Ile Pro
                245   250   255

Val Gly Ile Ala Gly Pro Leu Leu Leu Asn Gly Lys Glu Phe Ser Val
            260   265   270

Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly
            275   280   285

Cys Lys Ala Ile Tyr Ala Ser Gly Gly Ala Thr Cys Ile Val Leu Arg
    290   295   300

Asp Gly Met Thr Arg Ala Pro Cys Val Arg Phe Gly Thr Ala Lys Arg
305   310   315   320

Ala Ala Glu Leu Lys Phe Phe Val Glu Asp Pro Ile Lys Phe Glu Thr
                325   330   335

Leu Ala Asn Val Phe Asn Gln Ser Ser Arg Phe Gly Arg Leu Gln Arg
                340   345   350

Ile Gln Cys Ala Ile Ala Gly Lys Asn Leu Tyr Met Arg Phe Val Cys
            355   360   365

Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Gly Val Gln
    370   375   380

Asn Val Leu Asp Tyr Leu Gln Asn Glu Tyr Pro Asp Met Asp Val Ile
385   390   395   400

Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala Ala Val Asn
            405   410   415

Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Ile Ile Thr
            420   425   430

Glu Glu Val Val Lys Lys Val Leu Lys Thr Glu Val Ala Ala Leu Val
            435   440   445

Glu Leu Asn Met Leu Lys Asn Leu Thr Gly Ser Ala Met Ala Gly Ala

```
Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser Ala Val Phe
465             470             475             480


Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Ile Glu Ser Ser His Cys
                485             490             495


Ile Thr Met Met Glu Ala Val Asn Asp Gly Lys Asp Leu His Ile Ser
            500             505             510


Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly Gly Thr Gln
            515             520             525


Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val Lys Gly Ala
    530             535             540


Asn Arg Glu Ala Pro Gly Ser Asn Ala Arg Leu Leu Ala Thr Val Val
545             550             555             560


Ala Gly Ser Val Leu Ala Gly Glu Leu Ser Leu Met Ser Ala Ile Ser
            565             570             575


Ala Gly Gln Leu Val Asn Ser His Met Lys Tyr Asn Arg Ser Thr Lys
            580             585             590


Ala Ser Ser
        595


<210>   339
<211>   1053
<212>   PRT
<213>   Schizosaccharomyces pombe

<400>   339

Met Ile Tyr Lys Leu Ala Ala Arg Tyr Pro Ile Gln Val Ile Ala Ile
1               5               10              15


Val Gly Ile Leu Val Ser Met Ala Tyr Phe Ser Phe Leu Glu Ala Leu
            20              25              30


Thr Gln Glu Asp Phe Pro Val Leu Ile Arg Ala Leu Lys Arg Phe Gly
        35              40              45


Ile Leu Asp Gly Phe Pro Asn Thr Arg Leu Pro Asn Glu Met Ile Leu
    50              55              60
```

Lys Leu Ser Ser Val Gln Gly Glu Asp Ala Ser Val Trp Glu Gln Ile
65   70   75   80

Pro Ala Ala Glu Leu Gly Gly Glu Gly Phe Val Asp Phe Asp Ile Thr
            85   90   95

Gln Trp Tyr Tyr Pro Ala Asn Ala Lys Val Asp Val Ala Gln Leu Val
        100   105   110

Glu Pro Tyr Arg Asn Asp Cys Ile Phe His Asp Ala Ser Gly Ala Cys
        115   120   125

His Phe Phe Phe Lys Glu Val Gly Asn Trp Thr Val Ser Ser Ile Ala
    130   135   140

Leu Pro Ser Asn Leu Ala Asn Pro Pro Ile Asp Tyr Phe Leu Asp Ser
145   150   155   160

Ser Ser Thr Val Ile Gln Arg Ile Leu Pro Ala Ile Arg Glu His Gly
            165   170   175

Ile Ser Trp Ser Trp Leu Leu Gln Leu Ile Ala Arg Thr Trp Met Asn
        180   185   190

Thr Leu Lys Ile Ala Ser Gln Ala Ser Lys Thr Glu Leu Leu Ile Val
    195   200   205

Gly Thr Ala Tyr Ala Cys Met Leu Ile Ser Ile Val Ser Leu Tyr Leu
    210   215   220

Lys Met Arg Arg Leu Gly Ser Lys Phe Trp Leu Phe Phe Ser Val Leu
225   230   235   240

Leu Ser Thr Leu Phe Ser Val Gln Phe Ala Met Thr Leu Val Arg Ala
            245   250   255

Ser Gly Val Arg Ile Ser Leu Val Ser Leu Ile Glu Ser Leu Pro Phe
            260   265   270

Leu Ile Asn Val Val Ala Leu Asp Lys Ala Ala Glu Leu Thr Arg Gln
        275   280   285

Val Ile Thr Arg Cys Ser Val Ser Asp Ser His Ser Pro Met His Glu
    290   295   300

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Asp Ile Ala Lys Ala Cys Arg Asn Ala Ala Pro Pro Ile Leu Arg His
305               310               315               320


Phe Ser Phe Gly Ile Val Val Leu Ala Ile Phe Ser Tyr Cys Asn Phe
                325               330               335


Gly Ile Lys Gln Phe Phe Leu Phe Ala Ala Val Met Ile Tyr Asp Leu
            340               345               350


Leu Leu Leu Phe Ser Phe Phe Val Ala Ile Leu Thr Leu Lys Leu Glu
            355               360               365


Met Arg Arg Tyr Asn Ala Lys Asp Asp Val Arg Lys Val Leu Ile Glu
    370               375               380


Glu Gly Leu Ser Glu Ser Thr Ala Arg His Val Ala Asp Gly Asn Asp
385               390               395               400


Ser Ser Ala Thr Thr Ser Ala Gly Ser Arg Tyr Phe Lys Val Arg Tyr
                405               410               415


Gly Thr Lys Ile Ile Leu Phe Ile Phe Ile Ala Phe Asn Leu Phe Glu
            420               425               430


Leu Cys Ser Ile Pro Phe Lys His Tyr Ala Ala Thr Ser Ala Ala Ala
            435               440               445


Ala Arg Leu Ile Pro Leu Val Arg Ser Gln Tyr Pro Asp Phe Lys Ser
    450               455               460


Gln Arg Leu Leu Asp Asp Gly Val Phe Asp Asp Val Leu Ser Ala Ile
465               470               475               480


Ser Ser Met Ser Asn Ile Glu Ser Pro Ser Val Arg Leu Leu Pro Ala
                485               490               495


Val Phe Tyr Gly Ala Glu Leu Ser Ser Thr Ser Phe Leu Ser Thr Ile
            500               505               510


His Ser Phe Ile Asn Asn Trp Ser His Tyr Ile Ser Ala Ser Phe Leu
            515               520               525


Ser Lys Trp Ile Val Cys Ala Leu Ser Leu Ser Ile Ala Val Asn Val
    530               535               540


Phe Leu Leu Asn Ala Ala Arg Leu Asn Ser Ile Lys Glu Glu Pro Glu
```

Lys Lys Val Val Glu Lys Val Val Glu Val Val Lys Tyr Ile Pro Ser
                565   570   575

Ser Asn Ser Ser Ser Ile Asp Asp Ile Gln Lys Asp Glu Ile Ala Gln
                580   585   590

Glu Ser Val Val Arg Ser Leu Glu Glu Cys Ile Thr Leu Tyr Asn Asn
                595   600   605

Gly Gln Ile Ser Thr Leu Asn Asp Glu Glu Val Val Gln Leu Thr Leu
        610   615   620

Ala Lys Lys Ile Pro Leu Tyr Ala Leu Glu Arg Val Leu Lys Asp Val
625   630   635   640

Thr Arg Ala Val Val Ile Arg Arg Thr Val Val Ser Arg Ser Ser Arg
                645   650   655

Thr Lys Thr Leu Glu Ser Ser Asn Cys Pro Val Tyr His Tyr Asp Tyr
            660   665   670

Ser Arg Val Leu Asn Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro
        675   680   685

Leu Pro Leu Gly Val Ala Gly Pro Leu Ile Ile Asp Gly Lys Pro Phe
        690   695   700

Tyr Ile Pro Met Ala Thr Thr Glu Gly Ala Leu Val Ala Ser Thr Met
705   710   715   720

Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly Ala Val Thr Val Leu
                725   730   735

Thr Arg Asp Gln Met Ser Arg Gly Pro Cys Val Ala Phe Pro Asp Leu
                740   745   750

Thr Arg Ala Gly Arg Ala Lys Ile Trp Leu Asp Ser Pro Glu Gly Gln
                755   760   765

Glu Val Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala Arg Leu
        770   775   780

Gln His Ile Lys Thr Ala Leu Ala Gly Thr Arg Leu Phe Ile Arg Phe
785   790   795   800

Cys Thr Ser Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly
            805   810   815

Val Glu His Ala Leu Val Val Met Ser Asn Asp Ala Gly Phe Asp Asp
            820   825   830

Met Gln Val Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro
            835   840   845

Ala Ala Ile Asn Trp Ile Asp Gly Arg Gly Lys Ser Val Ile Ala Glu
    850   855   860

Ala Ile Ile Pro Gly Asp Ala Val Lys Ser Val Leu Lys Thr Thr Val
865   870   875   880

Glu Asp Leu Val Lys Leu Asn Val Asp Lys Asn Leu Ile Gly Ser Ala
            885   890   895

Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn Ile Val
            900   905   910

Thr Ala Val Tyr Leu Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu
            915   920   925

Ser Ser Asn Cys Ile Thr Leu Met Asp Asn Val Asp Gly Asn Leu Gln
    930   935   940

Leu Ser Val Ser Met Pro Ser Ile Glu Val Gly Thr Ile Gly Gly Gly
945   950   955   960

Thr Val Leu Glu Pro Gln Gly Ala Met Leu Asp Leu Leu Gly Val Arg
            965   970   975

Gly Ala His Met Thr Ser Pro Gly Asp Asn Ser Arg Gln Leu Ala Arg
            980   985   990

Val Val Ala Ala Ala Val Met Ala Gly Glu Leu Ser Leu Cys Ser Ala
    995   1000   1005

Leu Ala Ser Gly His Leu Val Lys Ser His Ile Gly Leu Asn Arg
    1010   1015   1020

Ser Ala Leu Asn Thr Pro Ala Met Asp Ser Ser Ala Lys Lys Pro
    1025   1030   1035

```
Ala Thr  Asp Ala Leu Lys Ser  Val Asn Ser Arg Val  Pro Gly Arg
    1040                1045                1050


<210>  340
<211>  856
<212>  PRT
<213>  Blattella germanica

<400>  340

Met Val Gly Arg Leu Phe Arg Ala His Gly Gln Phe Cys Ala Ser His
1                   5                   10                  15


Pro Trp Glu Val Ile Val Ala Thr Leu Thr Leu Thr Val Cys Met Leu
                20                  25                  30


Thr Val Asp Gln Arg Pro Leu Gly Leu Pro Pro Gly Trp Gly His Asn
            35                  40                  45


Cys Ile Thr Leu Glu Glu Tyr Asn Ala Ala Asp Met Ile Val Met Thr
    50                  55                  60


Leu Ile Arg Cys Val Ala Val Leu Tyr Ser Tyr Tyr Gln Phe Cys His
65                  70                  75                  80


Leu Gln Lys Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly Leu Phe
                85                  90                  95


Thr Val Phe Ser Ser Phe Val Phe Ser Ser Ser Val Ile Asn Phe Leu
                100                 105                 110


Gly Ser Asp Val Ser Asp Leu Lys Asp Ala Leu Phe Phe Phe Leu Leu
            115                 120                 125


Leu Ile Asp Leu Ser Lys Ala Thr Val Leu Ala Gln Phe Ala Leu Ser
    130                 135                 140


Ser Arg Ser Gln Asp Glu Val Lys His Asn Ile Ala Arg Gly Ile Ala
145                 150                 155                 160


Met Leu Gly Pro Thr Ile Thr Leu Asp Thr Val Val Glu Thr Leu Val
                165                 170                 175


Ile Gly Val Gly Met Leu Ser Gly Val Arg Arg Leu Glu Val Leu Cys
                180                 185                 190


Cys Phe Ala Cys Met Ser Val Ile Val Asn Tyr Val Val Phe Met Thr
```

Phe Tyr Pro Ala Cys Leu Ser Leu Ile Leu Glu Leu Ser Arg Ser Gly
    210   215   220

Glu Ser Gly Arg Pro Ala Trp His Asp Lys Ser Leu Ile Ile Lys Ala
225   230   235   240

Leu His Glu Glu Asp Gln Lys Pro Asn Pro Val Val Gln Arg Val Lys
            245   250   255

Val Ile Met Ser Ala Gly Leu Met Leu Val His Ala His Arg Trp Val
            260   265   270

Arg Cys Leu Ser Ile Ala Leu Trp Pro Asp Leu Thr Ser Leu Arg Tyr
        275   280   285

Phe Cys Thr His Cys Asp Thr Gly Val Ser Tyr Ser Arg Trp Ser Phe
    290   295   300

Ala Ser Glu Gly Glu Glu Leu Pro Thr Val Lys Leu Val Thr Gly Asp
305   310   315   320

Ser Val Val Asn Ser Asn Ser Thr Asp Asp Ala Gln Leu His Tyr Tyr
            325   330   335

Ile Met Arg Trp Leu Thr Val Ser Ala Asp His Ile Val Ile Leu Ile
        340   345   350

Leu Leu Leu Ala Leu Ala Val Lys Phe Val Phe Phe Glu Thr Arg Asp
        355   360   365

Glu Leu Thr Thr Thr Arg Gly Met Asp Gly Trp Val Glu Val Ser Ser
    370   375   380

Pro Val Glu His Lys Tyr Val Gln Thr Glu Gln Pro Ser Cys Ser Ala
385   390   395   400

Pro Glu Gln Pro Leu Glu Glu Pro Pro Ala Ser Asn Arg Ser Ile Asp
            405   410   415

Glu Cys Leu Ser Val Cys Lys Ser Asp Val Gly Ala Gln Ala Leu Ser
        420   425   430

Asp Cys Glu Val Met Ala Leu Val Thr Ser Gly His Ile Ala Gly Tyr
        435   440   445

Gln Leu Glu Lys Val Val Arg Asn Pro Glu Arg Gly Val Gly Ile Arg
    450   455   460

Arg Gln Ile Leu Thr Lys Thr Ala Asp Leu Lys Asp Ala Leu Asp Asn
465   470   475   480

Leu Pro Tyr Lys Asn Tyr Asp Tyr Leu Lys Val Met Gly Ala Cys Cys
                485   490   495

Glu Asn Val Ile Gly Tyr Met Pro Val Pro Val Gly Val Ala Gly Pro
                500   505   510

Leu Asn Leu Asp Gly Arg Leu Val His Val Pro Leu Ala Thr Thr Glu
                515   520   525

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Met Arg Ala Leu Met Arg
    530   535   540

Cys Gly Val Thr Ser Arg Ile Val Ala Asp Gly Met Thr Arg Gly Pro
545   550   555   560

Val Val Arg Phe Pro Asn Ile Asp Arg Ala Ser Glu Ala Met Leu Trp
                565   570   575

Met Gln Val Pro Tyr Asn Phe Glu Gln Ile Lys Lys Asn Phe Asp Ser
                580   585   590

Thr Ser Arg Phe Ala Arg Leu Ser Lys Ile His Ile Arg Val Ala Gly
                595   600   605

Arg His Leu Phe Ile Arg Phe Ile Ala Thr Thr Gly Asp Ala Met Gly
    610   615   620

Met Asn Met Leu Ser Lys Gly Thr Glu Val Ala Leu Ala Tyr Val Gln
625   630   635   640

Gln Val Tyr Pro Asp Met Glu Ile Leu Ser Leu Ser Gly Asn Phe Cys
                645   650   655

Thr Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys
                660   665   670

Ser Val Val Cys Glu Ala Ile Val Pro Ala Asp Ile Ile Lys Ser Val
    675   680   685

Leu Lys Thr Ser Val Gln Ala Leu Met Asp Val Asn Ile Thr Lys Asn
    690   695   700

Leu Ile Gly Ser Ala Val Ala Gly Ser Ile Gly Gly Phe Asn Ala His
705   710   715   720

Ala Ala Asn Ile Val Thr Ala Ile Phe Ile Ala Thr Gly Gln Asp Pro
            725   730   735

Ala Gln Asn Val Gly Ser Ser Asn Cys Met Thr Leu Met Glu Pro Trp
            740   745   750

Gly Glu Asp Gly Lys Asp Leu Tyr Val Ser Cys Thr Met Pro Ser Ile
            755   760   765

Glu Ile Gly Thr Ile Gly Gly Gly Thr Val Leu Pro Pro Gln Ala Ala
    770   775   780

Cys Leu Asp Met Leu Gly Val Arg Gly Ala Asn Glu Met Cys Pro Gly
785   790   795   800

Glu Asn Ala Asn Thr Leu Ala Arg Ile Val Cys Gly Thr Val Leu Ala
            805   810   815

Gly Glu Leu Ser Leu Met Ser Ala Leu Ala Ala Gly His Leu Val Lys
            820   825   830

Ser His Met Arg His Asn Arg Ser Ser Val Ser Thr Ser Gly Ser Glu
            835   840   845

Pro Ser Thr Pro Ala Cys Lys Ser
    850   855

<210> 341
<211> 59
<212> PRT
<213> Solanum tuberosum

<400> 341

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Tyr Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe

Thr Met Phe Ser Leu Leu Cys Ile Phe Phe Ser
  50   55

<210> 342
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 342

Met Asp Val Cys Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Phe Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
     20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
     35   40   ·45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
   50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 343
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 343

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
     20   · 25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
     35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
   50   55   60

```
Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65              70              75                      80


Leu Ala



<210>  344
<211>  82
<212>  PRT
<213>  Solanum tuberosum

<400>  344

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1               5               10                      15


Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20              25              30


Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Arg Leu Phe Phe
        35              40              45


Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
        50              55              60


Lys Ile Arg Asn Ser Ile Pro Phe His Val Val Thr Leu Ser Glu Leu
65              70              75                      80


Leu Ala



<210>  345
<211>  82
<212>  PRT
<213>  Solanum tuberosum

<400>  345

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1               5               10                      15


Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20              25              30


Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
        35              40              45


Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Val Arg Trp Arg Glu
        50              55              60
```

Lys Ile Arg Asn Ser Ile Pro Leu His Val Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 346
<211> 82
<212> PRT
<213> Solanum tuberosum

<400> 346

Met Asp Val Arg Arg Arg Pro Val Lys Pro Leu Tyr Thr Ser Lys Asp
1   5   10   15

Ala Ser Ala Gly Glu Pro Leu Lys Gln Glu Val Ser Ser Pro Lys Ala
            20   25   30

Ser Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Thr Gly Leu Phe Phe
            35   40   45

Thr Met Phe Phe Ser Val Met Tyr Phe Leu Leu Ile Arg Trp Arg Glu
        50   55   60

Lys Ile Arg Asn Ser Ile Pro Leu His Ala Val Thr Leu Ser Glu Leu
65   70   75   80

Leu Ala

<210> 347
<211> 277
<212> PRT
<213> Sphaceloma manihoticola

<400> 347

Met Ala Ala Gly Phe Pro Gly Tyr Ala Leu Glu Lys Thr Leu Glu Asp
1   5   10   15

Lys Thr Arg Ala Val Lys Ile Arg Arg Ala Met Ile Ala Arg Thr Pro
            20   25   30

Ala Thr Thr Lys His Ser Arg Leu Leu Glu Ser Ser Asn Leu Pro Tyr
            35   40   45

Gln His Phe Asp Tyr Asp Arg Val Phe Gly Ala Cys Cys Glu Asn Val
        50   55   60

Ile Gly Tyr Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Thr Ile
65   70   75   80

Asp Gly Glu Ser Tyr Phe Leu Pro Met Ala Thr Thr Glu Gly Val Leu
                85   90   95

Val Ala Ser Thr Ser Arg Gly Cys Lys Ala Ile Asn Ala Gly Gly Gly
            100   105   110

Ala Val Thr Val Leu Thr Ala Asp Gly Met Thr Arg Gly Pro Cys Val
            115   120   125

Gly Phe Glu Thr Leu Ala Arg Ala Ala Ala Ala Ala Lys Leu Trp Leu
        130   135   140

Asp Ser Glu Glu Gly Gln Lys Val Met Lys Asp Ala Phe Asn Ser Thr
145   150   155   160

Ser Arg Phe Ala Arg Leu Gln Gln Leu Lys Thr Ser Leu Ala Gly Thr
                165   170   175

Tyr Val Tyr Ile Arg Phe Lys Thr Thr Thr Gly Glu Ala Met Gly Met
            180   185   190

Asn Met Ile Ser Lys Gly Val Glu Lys Ala Leu Asp Val Met Ala Lys
            195   200   205

Glu Ser Gly Phe Glu Asp Met Ala Ile Ile Ser Val Ser Gly Asn Phe
    210   215   220

Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Asp Gly Arg Gly
225   230   235   240

Lys Ser Val Val Ala Glu Ala Ile Ile Pro Gly Asp Val Val Arg Ser
            245   250   255

Val Leu Lys Ser Asp Val Asn Ala Leu Val Glu Leu Asn Val Ser Lys
            260   265   270

Asn Leu Ile Gly Ser
        275

<210>   348
<211>   976
<212>   PRT

25156216   - 626 -

<213> Gibberella fujikuroi

<400> 348

Met Asp His Glu Gly Cys Gln Gly Gln His Pro Gln Gln Cys Cys Gln
1   5   10   15

Trp Val Ser Asn Ala Trp Ser Glu Phe Leu Asp Leu Leu Lys Asn Ala
            20   25   30

Glu Thr Leu Asp Ile Val Ile Met Leu Leu Gly Tyr Ile Ala Met His
            35   40   45

Leu Thr Phe Val Ser Leu Phe Leu Ser Met Arg Lys Met Gly Ser Lys
        50   55   60

Phe Trp Leu Gly Ile Cys Thr Leu Phe Ser Ser Val Phe Ala Phe Leu
65   70   75   80

Phe Gly Leu Val Val Thr Thr Lys Leu Gly Val Pro Ile Ser Val Ile
                85   90   95

Leu Leu Ser Glu Gly Leu Pro Phe Leu Val Val Thr Ile Gly Phe Glu
            100   105   110

Lys Asn Ile Val Leu Thr Arg Ala Val Met Ser His Ala Ile Glu His
            115   120   125

Arg Arg Ile Gln Ala Gln Asn Ser Lys Ser Gly Lys Arg Ser Pro Asp
    130   135   140

Gly Ser Thr Gln Asn Met Ile Gln Tyr Ala Val Gln Ala Ala Ile Lys
145   150   155   160

Glu Lys Gly Phe Glu Ile Ile Arg Asp Tyr Ala Ile Glu Ile Val Ile
                165   170   175

Leu Val Ile Gly Ala Ala Ser Gly Val Gln Gly Gly Leu Gln Gln Phe
            180   185   190

Cys Phe Leu Ala Ala Trp Thr Leu Phe Phe Asp Phe Ile Leu Leu Phe
        195   200   205

Thr Phe Tyr Thr Ala Ile Leu Ser Ile Lys Leu Arg Ser Thr Val Ser
    210   215   220

Ser Val Met Ser Ile Cys Val Trp Pro Leu Arg Met Met Ala Ser Arg

Arg Val Ala Glu Asn Val Ala Lys Gly Asp Asp Glu Leu Asn Arg Val
                245   250   255

Arg Gly Asp Ala Pro Leu Phe Gly Arg Lys Ser Ser Ser Ile Pro Lys
                260   265   270

Phe Lys Val Leu Met Ile Leu Gly Phe Ile Phe Val Asn Ile Val Asn
                275   280   285

Ile Cys Ser Ile Pro Phe Arg Asn Pro Ser Ser Met Ser Thr Ile Arg
        290   295   300

Thr Trp Ala Ser Ser Leu Gly Gly Val Ile Ala Pro Leu Ser Val Asp
305   310   315   320

Pro Phe Lys Val Ala Ser Asn Gly Leu Asp Ala Ile Leu Pro Thr Ala
                325   330   335

Lys Ser Asn Asn Arg Pro Thr Leu Val Thr Val Leu Thr Pro Ile Lys
                340   345   350

Tyr Glu Leu Glu Tyr Pro Ser Ile His Tyr Ala Leu Gly Ser Ala Ala
                355   360   365

Ser Asn Pro Ala Tyr Asn Asp Ala Phe His His His Phe Gln Gly Tyr
        370   375   380

Gly Val Gly Gly Arg Met Val Gly Gly Ile Leu Lys Ser Leu Glu Asp
385   390   395   400

Pro Val Leu Ser Lys Trp Ile Val Ile Ala Leu Ala Leu Ser Val Ala
                405   410   415

Leu Asn Gly Tyr Leu Phe Asn Val Ala Arg Trp Gly Ile Lys Asp Pro
                420   425   430

Asn Val Pro Glu His Asn Ile Asp Arg Asn Glu Leu Ala Arg Ala Arg
                435   440   445

Glu Phe Asn Asp Thr Gly Ser Ala Thr Leu Pro Leu Gly Glu Tyr Val
        450   455   460

Pro Pro Thr Pro Met Arg Thr Gln Pro Ser Thr Pro Ala Ile Thr Asp
465   470   475   480

```
Asp Glu Ala Glu Gly Leu His Met Thr Lys Ala Arg Pro Ala Asn Leu
            485             490             495

Pro Asn Arg Ser Asn Glu Glu Leu Glu Lys Leu Leu Ser Glu Asn Ala
            500             505             510

Leu Arg Glu Met Thr Asp Glu Glu Val Ile Ser Leu Ser Met Arg Gly
        515             520             525

Lys Ile Pro Gly Tyr Ala Leu Glu Lys Thr Leu Gly Asp Phe Thr Arg
    530             535             540

Ala Val Lys Ile Arg Arg Ser Ile Ile Ala Arg Asn Lys Ala Ala Ala
545             550             555             560

Asp Ile Thr His Ser Leu Asp Arg Ser Lys Leu Pro Tyr Glu Asn Tyr
            565             570             575

Asn Trp Glu Arg Phe Phe Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr
            580             585             590

Met Pro Leu Pro Val Gly Val Ala Gly Pro Leu Val Ile Asp Gly Gln
        595             600             605

Ser Tyr Phe Ile Pro Met Ala Thr Thr Glu Gly Val Leu Val Ala Ser
    610             615             620

Ala Ser Arg Gly Cys Lys Ala Ile Asn Ser Gly Gly Gly Ala Ile Thr
625             630             635             640

Val Leu Thr Ala Asp Gly Met Thr Arg Gly Pro Cys Val Ala Phe Glu
            645             650             655

Thr Leu Glu Arg Ala Gly Ala Ala Lys Leu Trp Leu Asp Ser Glu Ala
            660             665             670

Gly Gln Asp Met Met Lys Lys Ala Phe Asn Ser Thr Ser Arg Phe Ala
        675             680             685

Arg Leu Gln Ser Met Lys Thr Ala Leu Ala Gly Thr Asn Leu Tyr Ile
    690             695             700

Arg Phe Lys Thr Thr Thr Gly Asp Ala Met Gly Met Asn Met Ile Ser
705             710             715             720
```

```
Lys Gly Val Glu His Ala Leu Ser Val Met Ala Asn Asp Gly Gly Phe
            725                 730                 735

Asp Asp Met Gln Ile Ile Ser Val Ser Gly Asn Tyr Cys Thr Asp Lys
            740                 745                 750

Lys Ala Ala Ala Leu Asn Trp Ile Asp Gly Arg Gly Lys Gly Val Val
            755                 760                 765

Ala Glu Ala Ile Ile Pro Gly Glu Val Val Arg Ser Val Leu Lys Ser
        770                 775                 780

Asp Val Asp Ser Leu Val Glu Leu Asn Val Ala Lys Asn Leu Ile Gly
785                 790                 795                 800

Ser Ala Met Ala Gly Ser Val Gly Gly Phe Asn Ala His Ala Ala Asn
                805                 810                 815

Ile Val Ala Ala Ile Phe Leu Ala Thr Gly Gln Asp Pro Ala Gln Val
            820                 825                 830

Val Glu Ser Ala Asn Cys Ile Thr Ile Met Lys Asn Leu Asn Gly Ala
        835                 840                 845

Leu Gln Ile Ser Val Ser Met Pro Ser Leu Glu Val Gly Thr Leu Gly
    850                 855                 860

Gly Gly Thr Ile Leu Glu Pro Gln Gly Ala Met Leu Asp Ile Leu Gly
865                 870                 875                 880

Val Arg Gly Ser His Pro Thr Asn Pro Gly Asp Asn Ala Arg Arg Leu
                885                 890                 895

Ala Arg Ile Ile Gly Ala Ala Val Leu Ala Gly Glu Leu Ser Leu Cys
            900                 905                 910

Ser Ala Leu Ala Ala Gly His Leu Val Arg Ala His Met Gln His Asn
        915                 920                 925

Arg Ser Ala Ala Pro Ser Arg Ser Thr Thr Pro Gly Ser Ser His Asp
    930                 935                 940

Ala Arg Leu Thr Gly His Asp Gln Cys Pro Arg Ala Leu Ser Val Asn
945                 950                 955                 960
```

```
Asn Val Asp Glu Arg Arg Arg Tyr Ser Glu Val Lys Ala Ile Asp Glu
                965                 970             975
```

```
<400>  349

Pro Ile Arg Ser Pro Lys Arg Gly Thr Ser Met Gly Met Asn Met Ile
1               5                   10              15


Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro
            20                  25                  30


Glu Leu Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys
            35                  40                  45


Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys
    50                  55                  60


Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu Lys Ser Thr
65                  70                  75                  80


Thr Glu Ala Met Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser
                85                  90                  95


Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile
            100                 105                 110


Val Thr Ala Ile Tyr Ile Ala Cys Ala Gln Asp Ala Ala Gln Asn Val
            115                 120                 125


Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Xaa Xaa
    130                 135                 140


Glu Asp Leu Xaa Xaa Ser Xaa Xaa Met Pro Ser Ile Glu Ile Gly Thr
145                 150                 155                 160


Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met
                165                 170                 175
```

```
Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg
            180                 185                 190

Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser
            195                 200                 205

Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser His Met Val
            210                 215                 220

His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr
225                 230                 235                 240

Lys Lys Ala Ala


<210>   350
<211>   102
<212>   PRT
<213>   Artificial Sequence

<220>
<223>   NON_TER

<220>
<221>   NON_TER
<222>   (1)..(102)
<223>   NON_TER


<400>   350

Leu His Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn
1               5                   10                  15

Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg
            20                  25                  30

Gly Lys Ser Val Val Cys Glu Ala Val Ile Pro Ser Lys Val Val Arg
            35                  40                  45

Glu Val Leu Lys Thr Thr Thr Glu Ala Met Ile Glu Val Asn Ile Asn
    50                  55                  60

Lys Asn Leu Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn
65                  70                  75                  80

Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln
                85                  90                  95

Asp Ala Ala Gln Asn Val
```

25156216   - 632 -

<210> 351
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> NON_TER

<220>
<221> NON_TER
<222> (1)..(115)
<223> NON_TER

<400> 351

Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu
1   5   10   15

Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val
            20   25   30

Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu
        35   40   45

Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln
    50   55   60

Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu
65   70   75   80

Met Ala Ala Leu Ala Ala Gly His Leu Val Lys Ser His Met Ile His
            85   90   95

Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly Ala Cys Thr Lys
            100   105   110

Lys Thr Ala
        115

<210> 352
<211> 462
<212> PRT
<213> Artificial Sequence

<220>
<223> NON_TER

<220>
<221> NON_TER

<222> (1)..(462)
<223> NON_TER

<400> 352

```
Met Val Leu Val Thr Gln Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro
1               5               10              15

Arg Pro Asn Glu Glu Cys Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly
            20              25              30

Ala Lys Phe Leu Ser Asp Ala Glu Ile Ile Gln Leu Val Asn Ala Lys
        35              40              45

His Ile Pro Ala Tyr Lys Leu Glu Thr Leu Met Glu Thr His Glu Arg
        50              55              60

Gly Val Ser Ile Arg Arg Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro
65              70              75              80

Ser Ser Leu Gln Tyr Leu Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val
            85              90              95

Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val
            100             105             110

Gly Val Ala Gly Pro Leu Cys Leu Asp Glu Lys Glu Phe Gln Val Pro
            115             120             125

Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Cys
        130             135             140

Arg Ala Ile Gly Leu Gly Gly Gly Ala Ser Ser Arg Val Leu Ala Asp
145             150             155             160

Gly Met Thr Arg Gly Pro Val Val Arg Leu Pro Arg Ala Cys Asp Ser
            165             170             175

Ala Glu Val Lys Ala Trp Leu Glu Thr Ser Glu Gly Phe Ala Val Ile
            180             185             190

Lys Glu Ala Phe Asp Ser Thr Ser Arg Phe Ala Arg Leu Gln Lys Leu
            195             200             205

His Thr Ser Ile Ala Gly Arg Asn Leu Tyr Ile Arg Phe Gln Ser Arg
        210             215             220
```

```
Ser Gly Asp Ala Met Gly Met Asn Met Ile Ser Lys Gly Thr Glu Lys
225             230             235             240


Ala Leu Ser Lys Leu His Glu Tyr Phe Pro Glu Met Gln Ile Leu Ala
            245             250             255


Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile Asn Trp
            260             265             270


Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala Val Ile Pro Ser
            275             280             285


Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met Ile Glu
    290             295             300


Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly Ser Ile
305             310             315             320


Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile Tyr Ile
            325             330             335


Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn Cys Ile
            340             345             350


Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr Ile Ser
    355             360             365


Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val Gly Gly Gly Thr Asn
    370             375             380


Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu Gly Val Gln Gly Ala
385             390             395             400


Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln Leu Ala Arg Ile Val
            405             410             415


Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala Leu Ala
            420             425             430


Ala Gly His Leu Val Lys Ser His Met Ile His Asn Arg Ser Lys Ile
            435             440             445


Asn Leu Gln Asp Leu Gln Gly Ala Cys Thr Lys Lys Thr Ala
    450             455             460
```

<210> 353
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> NON_TER

<220>
<221> NON_TER
<222> (1)..(123)
<223> NON_TER

<400> 353

Met Val Leu Val Thr Gln Glu Pro Glu Ile Glu Leu Pro Arg Glu Pro
1   5   10   15

Arg Pro Asn Glu Glu Cys Leu Gln Ile Leu Gly Asn Ala Glu Lys Gly
            20   25   30

Ala Lys Phe Leu Ser Asp Ala Glu Ile Ile Gln Leu Val Asn Ala Lys
            35   40   45

His Ile Pro Ala Tyr Lys Leu Glu Thr Leu Met Glu Thr His Glu Arg
        50   55   60

Gly Val Ser Ile Arg Arg Gln Leu Leu Ser Lys Lys Leu Ser Glu Pro
65   70   75   80

Ser Ser Leu Gln Tyr Leu Pro Tyr Arg Asp Tyr Asn Tyr Ser Leu Val
                85   90   95

Met Gly Ala Cys Cys Glu Asn Val Ile Gly Tyr Met Pro Ile Pro Val
            100   105   110

Gly Val Ala Gly Pro Leu Cys Leu Asp Glu Lys
        115   120

<210> 354
<211> 562
<212> PRT
<213> Arabidopsis thaliana

<400> 354

Met Glu Asp Leu Arg Arg Arg Phe Pro Thr Lys Lys Asn Gly Glu Glu
1   5   10   15

Ile Ser Asn Val Ala Val Asp Pro Pro Leu Arg Lys Ala Ser Asp Ala
            20   25   30

```
Leu Pro Leu Pro Leu Tyr Leu Thr Asn Thr Phe Phe Leu Ser Leu Phe
    35              40              45

Phe Ala Thr Val Tyr Phe Leu Leu Ser Arg Trp Arg Glu Lys Ile Arg
    50              55              60

Asn Ser Thr Pro Leu His Val Val Asp Leu Ser Glu Ile Cys Ala Leu
65              70              75              80

Ile Gly Phe Val Ala Ser Phe Ile Tyr Leu Leu Gly Phe Cys Gly Ile
            85              90              95

Asp Leu Ile Phe Arg Ser Ser Ser Asp Asp Val Trp Val Asn Asp
            100             105             110

Gly Met Ile Pro Cys Asn Gln Ser Leu Asp Cys Arg Glu Val Leu Pro
        115             120             125

Ile Lys Pro Asn Ser Val Asp Pro Pro Arg Glu Ser Glu Leu Asp Ser
    130             135             140

Val Glu Asp Glu Glu Ile Val Lys Leu Val Ile Asp Gly Thr Ile Pro
145             150             155             160

Ser Tyr Ser Leu Glu Thr Lys Leu Gly Asp Cys Lys Arg Ala Ala Ala
            165             170             175

Ile Arg Arg Glu Ala Val Gln Arg Ile Thr Gly Lys Ser Leu Thr Gly
            180             185             190

Leu Pro Leu Glu Gly Phe Asp Tyr Asn Ser Ile Leu Gly Gln Cys Cys
        195             200             205

Glu Met Pro Val Gly Tyr Val Gln Ile Pro Val Gly Ile Ala Gly Pro
    210             215             220

Leu Leu Leu Asp Gly Val Glu Tyr Ser Val Pro Met Ala Thr Thr Glu
225             230             235             240

Gly Cys Leu Val Ala Ser Thr Asn Arg Gly Phe Lys Ala Ile His Leu
            245             250             255

Ser Gly Gly Ala Phe Ser Val Leu Val Lys Asp Ala Met Thr Arg Ala
            260             265             270
```

```
Pro Val Val Arg Phe Pro Ser Ala Arg Arg Ala Ala Leu Val Met Phe
        275             280             285

Tyr Leu Gln Asp Pro Ser Asn Phe Glu Arg Leu Ser Leu Ile Phe Asn
    290             295             300

Lys Ser Ser Arg Phe Ala Arg Leu Gln Ser Ile Thr Cys Thr Ile Ala
305             310             315             320

Gly Arg Asn Leu Tyr Pro Arg Phe Ala Cys Ser Thr Gly Asp Ala Met
            325             330             335

Gly Met Asn Met Val Ser Lys Gly Val Gln Asn Val Leu Asp Phe Val
            340             345             350

Lys Ser Glu Phe Pro Asp Met Asp Val Ile Gly Ile Ser Gly Asn Tyr
        355             360             365

Cys Ser Asp Lys Lys Ala Ser Ala Val Asn Trp Ile Glu Gly Arg Gly
    370             375             380

Lys His Val Val Cys Glu Ala Phe Ile Lys Ala Glu Ile Val Glu Lys
385             390             395             400

Val Leu Lys Thr Ser Val Glu Ala Leu Val Glu Leu Asn Thr Leu Lys
            405             410             415

Asn Leu Val Gly Ser Ala Met Ala Gly Ser Leu Gly Gly Phe Asn Ala
            420             425             430

His Ser Ser Asn Ile Val Ser Ala Val Phe Ile Ala Thr Gly Gln Asp
        435             440             445

Pro Ala Gln Asn Val Glu Ser Ser His Cys Met Thr Met Ile Leu Pro
    450             455             460

Asp Gly Asp Asp Leu His Ile Ser Val Ser Met Pro Cys Ile Glu Val
465             470             475             480

Gly Thr Val Gly Gly Gly Thr Gln Leu Ala Ser Gln Ala Ala Cys Leu
            485             490             495

Asn Leu Leu Gly Val Lys Gly Ser Asn Asn Glu Lys Pro Gly Ser Asn
            500             505             510
```

Ala Gln Gln Leu Ala Arg Ile Val Ala Gly Ser Val Leu Ala Gly Glu
        515   520   525

Leu Ser Leu Met Ser Ala Ile Ala Ala Gly Gln Leu Val Lys Ser His
        530   535   540

Met Lys Tyr Asn Arg Ser Ser Arg Asp Ile Gly Pro Ser Ser Gln Val
545   550   555   560

Asn Arg

<210> 355
<211> 224
<212> PRT
<213> Mus musculus

<400> 355

Glu Lys Ala Leu Leu Lys Leu Gln Glu Phe Phe Pro Asp Met Gln Ile
1   5   10   15

Leu Ala Val Ser Gly Asn Tyr Cys Thr Asp Lys Lys Pro Ala Ala Ile
            20   25   30

Asn Trp Ile Glu Gly Arg Gly Lys Thr Val Val Cys Glu Ala Val Ile
        35   40   45

Pro Ala Lys Val Val Arg Glu Val Leu Lys Thr Thr Thr Glu Ala Met
    50   55   60

Val Asp Val Asn Ile Asn Lys Asn Leu Val Gly Ser Ala Met Ala Gly
65   70   75   80

Ser Ile Gly Gly Tyr Asn Ala His Ala Ala Asn Ile Val Thr Ala Ile
            85   90   95

Tyr Ile Ala Cys Gly Gln Asp Ala Ala Gln Asn Val Gly Ser Ser Asn
        100   105   110

Cys Ile Thr Leu Met Glu Ala Ser Gly Pro Thr Asn Glu Asp Leu Tyr
        115   120   125

Ile Ser Cys Thr Met Pro Ser Ile Glu Ile Gly Thr Val Gly Gly Gly
    130   135   140

Thr Asn Leu Leu Pro Gln Gln Ala Cys Leu Gln Met Leu Gly Val Gln
145   150   155   160

25156216   - 639 -

Gly Ala Cys Lys Asp Asn Pro Gly Glu Asn Ala Arg Gln Leu Ala Arg
            165   170   175

Ile Val Cys Gly Thr Val Met Ala Gly Glu Leu Ser Leu Met Ala Ala
            180   185   190

Leu Ala Ala Gly His Leu Val Arg Ser His Met Val His Asn Arg Ser
            195   200   205

Lys Ile Asn Leu Gln Asp Leu Gln Gly Thr Cys Thr Lys Lys Ala Ala
            210   215   220

<210>   356
<211>   887
<212>   PRT
<213>   Mesocricetus auratus

<400>   356

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1   5   10   15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
            20   25   30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
            35   40   45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
    50   55   60

Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65   70   75   80

Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
            85   90   95

Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
            100   105   110

Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
            115   120   125

Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
            130   135   140

Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145   150   155   160

Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
                165   170   175

Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
            180   185   190

Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
        195   200   205

Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
    210   215   220

Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225   230   235   240

Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
            245   250   255

Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
        260   265   270

Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
        275   280   285

Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
    290   295   300

Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305   310   315   320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
            325   330   335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
        340   345   350

Pro Ile Thr Ser Pro Val Ala Thr Pro Lys Lys Ala Pro Asp Asn Cys
        355   360   365

Cys Arg Arg Glu Pro Val Leu Ser Arg Arg Asn Glu Lys Leu Ser Ser
    370   375   380

Val Glu Glu Glu Pro Gly Val Asn Gln Asp Arg Lys Val Glu Val Ile

Lys Pro Leu Val Ala Glu Thr Glu Ser Thr Ser Arg Ala Thr Phe Val
            405   410   415

Leu Gly Ala Ser Gly Gly Cys Ser Pro Val Ala Leu Gly Thr Gln Glu
            420   425   430

Pro Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
            435   440   445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
            450   455   460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465   470   475   480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
            485   490   495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
            500   505   510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
            515   520   525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
            530   535   540

Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545   550   555   560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
            565   570   575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
            580   585   590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
            595   600   605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
            610   615   620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625   630   635   640

```
Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
            645                 650                 655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Val Lys Leu Gln Glu
            660                 665                 670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
            675                 680                 685

Asp Lys Lys Pro Ala Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Thr
    690                 695                 700

Val Val Cys Glu Ala Val Ile Pro Ala Arg Val Val Arg Glu Val Leu
705                 710                 715                 720

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
                725                 730                 735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
            740                 745                 750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
            755                 760                 765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
    770                 775                 780

Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785                 790                 795                 800

Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
            805                 810                 815

Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
            820                 825                 830

Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
            835                 840                 845

Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
    850                 855                 860

His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865                 870                 875                 880
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Thr Cys Thr Lys Lys Ala Ala
                885

<210> 357
<211> 592
<212> PRT.
<213> Arabidopsis thaliana

<400> 357

Met Asp Leu Arg Arg Arg Pro Pro Lys Pro Pro Val Thr Asn Asn Asn
1   5   10   15

Asn Ser Asn Gly Ser Phe Arg Ser Tyr Gln Pro Arg Thr Ser Asp Asp
                20   25   30

Asp His Arg Arg Arg Ala Thr Thr Ile Ala Pro Pro Pro Lys Ala Ser
                35   40   45

Asp Ala Leu Pro Leu Pro Leu Tyr Leu Thr Asn Ala Val Phe Phe Thr
        50   55   60

Leu Phe Phe Ser Val Ala Tyr Tyr Leu Leu His Arg Trp Arg Asp Lys
65   70   75   80

Ile Arg Tyr Asn Thr Pro Leu His Val Val Thr Ile Thr Glu Leu Gly
                85   90   95

Ala Ile Ile Ala Leu Ile Ala Ser Phe Ile Tyr Leu Leu Gly Phe Phe
                100   105   110

Gly Ile Asp Phe Val Gln Ser Phe Ile Ser Arg Ala Ser Gly Asp Ala
                115   120   125

Trp Asp Leu Ala Asp Thr Ile Asp Asp Asp His Arg Leu Val Thr
        130   135   140

Cys Ser Pro Pro Thr Pro Ile Val Ser Val Ala Lys Leu Pro Asn Pro
145   150   155   160

Glu Pro Ile Val Thr Glu Ser Leu Pro Glu Glu Asp Glu Glu Ile Val
                165   170   175

Lys Ser Val Ile Asp Gly Val Ile Pro Ser Tyr Ser Leu Glu Ser Arg
                180   185   190

Leu Gly Asp Cys Lys Arg Ala Ala Ser Ile Arg Arg Glu Ala Leu Gln

25156216   - 644 -

Arg Val Thr Gly Arg Ser Ile Glu Gly Leu Pro Leu Asp Gly Phe Asp
    210   215   220

Tyr Glu Ser Ile Leu Gly Gln Cys Cys Glu Met Pro Val Gly Tyr Ile
225   230   235   240

Gln Ile Pro Val Gly Ile Ala Gly Pro Leu Leu Leu Asp Gly Tyr Glu
            245   250   255

Tyr Ser Val Pro Met Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr
            260   265   270

Asn Arg Gly Cys Lys Ala Met Phe Ile Ser Gly Gly Ala Thr Ser Thr
        275   280   285

Val Leu Lys Asp Gly Met Thr Arg Ala Pro Val Val Arg Phe Ala Ser
    290   295   300

Ala Arg Arg Ala Ser Glu Leu Lys Phe Phe Leu Glu Asn Pro Glu Asn
305   310   315   320

Phe Asp Thr Leu Ala Val Val Phe Asn Arg Ser Ser Arg Phe Ala Arg
            325   330   335

Leu Gln Ser Val Lys Cys Thr Ile Ala Gly Lys Asn Ala Tyr Val Arg
            340   345   350

Phe Cys Cys Ser Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys
        355   360   365

Gly Val Gln Asn Val Leu Glu Tyr Leu Thr Asp Asp Phe Pro Asp Met
    370   375   380

Asp Val Ile Gly Ile Ser Gly Asn Phe Cys Ser Asp Lys Lys Pro Ala
385   390   395   400

Ala Val Asn Trp Ile Glu Gly Arg Gly Lys Ser Val Val Cys Glu Ala
            405   410   415

Val Ile Arg Gly Glu Ile Val Asn Lys Val Leu Lys Thr Ser Val Ala
            420   425   430

Ala Leu Val Glu Leu Asn Met Leu Lys Asn Leu Ala Gly Ser Ala Val
            435   440   445

Ala Gly Ser Leu Gly Gly Phe Asn Ala His Ala Ser Asn Ile Val Ser
    450   455   460

Ala Val Phe Ile Ala Thr Gly Gln Asp Pro Ala Gln Asn Val Glu Ser
465   470   475   480

Ser Gln Cys Ile Thr Met Met Glu Ala Ile Asn Asp Gly Lys Asp Ile
                485   490   495

His Ile Ser Val Thr Met Pro Ser Ile Glu Val Gly Thr Val Gly Gly
            500   505   510

Gly Thr Gln Leu Ala Ser Gln Ser Ala Cys Leu Asn Leu Leu Gly Val
            515   520   525

Lys Gly Ala Ser Thr Glu Ser Pro Gly Met Asn Ala Arg Arg Leu Ala
    530   535   540

Thr Ile Val Ala Gly Ala Val Leu Ala Gly Glu Leu Ser Leu Met Ser
545   550   555   560

Ala Ile Ala Ala Gly Gln Leu Val Arg Ser His Met Lys Tyr Asn Arg
            565   570   575

Ser Ser Arg Asp Ile Ser Gly Ala Thr Thr Thr Thr Thr Thr Thr Thr
            580   585   590

<210> 358
<211> 948
<212> PRT
<213> Schistosoma mansoni

<400> 358

Met Leu Lys Ile Leu Asn Thr Val Leu Leu Phe Phe Asp Cys Phe Ser
1   5   10   15

Thr Gly Thr Phe Phe Val Leu Leu Ile Tyr Leu Phe Thr Arg Leu Arg
            20   25   30

Thr His Leu Leu His Phe Ser Ser Ser Asn Cys His Leu Asp Val Ile
            35   40   45

Ile Tyr Gln Ser Arg Ala Val Ile Ile Phe Leu Val Val Phe Val Tyr
    50   55   60

Phe Ile Gly Val Leu Thr Cys Lys Ile Asn Asp Lys Ile Leu Val His
65   70   75   80

Thr Met Leu Arg Asn Lys Arg Gln Leu Asn Thr Leu Phe Tyr Thr Leu
             85   90   95

Ile Leu Phe Thr Phe Ala Leu Cys Ser Leu Ser Ser Val Leu Phe Val
         100   105   110

Pro Tyr Thr Ser Phe Ala Ile Phe Leu Leu Ser Thr Ser Val Phe Leu
         115   120   125

Leu Phe Ser Asp Leu Ser Val Phe Phe Ile Val Leu Glu Tyr Tyr Leu
     130   135   140

Leu Glu Ile Glu Leu Val Asn Tyr Glu His Ala Lys Arg His Cys Leu
145   150   155   160

Leu Ser His Leu Phe Ser Asn Gln Leu Phe Val Asp His Met Leu Gly
             165   170   175

Met Phe Leu Lys Thr Ser Leu Phe Ser Ile Ser Thr Thr Ser Lys Tyr
         180   185   190

Ala Tyr Leu Glu Ser Ile Phe Lys Cys Thr Leu Met Glu Gln Ile Ile
         195   200   205

Tyr Ile Met Ile Val Phe Val Phe Leu Pro Ser Phe Met Arg Ile Phe
     210   215   220

Ala Ser Tyr Ala Lys Arg Met Tyr Gly Glu Gln Lys Lys Cys Leu Val
225   230   235   240

Ser Asn Lys Gly Val Ser Ser Ser Thr Arg Lys Arg Arg His Ser Tyr
             245   250   255

Ser Ser Gly His Ser Tyr Val Glu Tyr Arg Arg Met Ser Val His Asn
         260   265   270

Leu Ile Gly Tyr Val Val Asn Pro Asn Cys His Tyr Lys Cys Trp Ser
         275   280   285

Thr Thr Phe Val Ile Phe Val Ser Leu Ile Ile Leu His Leu Asn Asn
     290   295   300

Arg Tyr Ser Glu Arg Ile Ser Ser Phe Lys His Asn Ser Ser Glu Asn

Glu Val Phe Pro Val Leu Tyr His Ile Thr Ala Tyr Glu Val Thr Ser
            325   330   335

Ile Phe His Phe Ile Tyr Asn Ile Phe His Val Ile Asn Ala Asn Leu
            340   345   350

Val Val Tyr Leu Phe Leu Gly Leu Phe Leu Phe Lys Arg Ile Arg Leu
            355   360   365

Asn Lys Pro Ile Asn Ser Gln Leu Arg Asn Leu Asn Ile Pro Lys Ile
    370   375   380

Lys Glu Thr Leu Ile Ser Asp Gln Val Lys Gln Ser Pro Val Leu Pro
385   390   395   400

Lys Phe Ser Lys Lys Leu Asn Asp Ile Pro Leu Gln Ser Arg Lys Arg
            405   410   415

Ile Tyr Cys Leu His Lys Asp Asp Asp Tyr Ile Asp Arg Asn Asp Ser
            420   425   430

Ser Ser Val Ser Thr Phe Ser Asn Thr Cys Lys Asn Ser Asn Glu Arg
            435   440   445

Pro Ser Asn Val Leu Asp Leu Asp Met Leu Thr Glu Lys Ile Lys Gln
    450   455   460

Gly Leu Gly His Glu Leu Ser Asp Thr Glu Ile Leu Gln Leu Leu Ser
465   470   475   480

His Gly Arg Leu Lys Thr Arg Glu Leu Glu Ser Val Val Arg Asn Pro
            485   490   495

Phe Arg Ala Val Glu Leu Arg Arg Leu Asp Leu Ser Thr Phe Leu Asn
            500   505   510

Asn Pro His Ile Ile Glu Arg Ile Pro Tyr Lys Asp Tyr Asp Tyr Arg
            515   520   525

Leu Val Tyr Gly Gln Cys Cys Glu Glu Val Ile Gly Tyr Met Pro Ile
    530   535   540

Pro Val Gly Lys Ile Gly Pro Leu Leu Leu Asp Gly Arg Ser His Tyr
545   550   555   560

Ile Pro Leu Ala Thr Thr Glu Gly Cys Leu Val Ala Ser Thr Asn Arg
            565   570   575

Gly Cys Arg Ala Ile Phe Leu Ala Gly Gly Ile Lys Ser Val Val Tyr
            580   585   590

Arg Asp Gln Met Thr Arg Ala Pro Val Val Trp Phe Pro Ser Ile Ile
            595   600   605

Asp Ser Val Lys Cys Ile Ala Trp Ile Asp Ser Glu Glu Gly Phe Gln
    610   615   620

Thr Leu Lys Ser Ala Phe Asp Lys Thr Ser Ala His Val Asn Leu Leu
625   630   635   640

Ser Val Phe Ala Cys Pro Ala Gly Arg Tyr Ile His Ile Arg Phe Ala
            645   650   655

Ala Arg Thr Gly Asp Ala Met Gly Met Asn Met Val Ser Lys Ala Thr
            660   665   670

Asp Ser Ala Leu His Cys Leu Lys Lys Tyr Phe Ser Asn Met Gln Val
            675   680   685

Ile Ser Leu Ser Gly Asn Met Cys Thr Asp Lys Lys Pro Ala Thr Ile
    690   695   700

Asn Thr Ile Leu Gly Arg Gly Lys Ser Val Ile Ala Glu Ala His Leu
705   710   715   720

Ser Ala Asp Val Leu Ala Gln Val Leu His Thr Asn Ala Gln Arg Leu
            725   730   · 735

Ala Arg Leu Thr His Ser Lys Asn Trp Ile Gly Ser Ala Met Ala Gly
            740   745   750

Cys Pro Gly Met Met Gly Cys Asn Ala His Ala Ala Asn Ile Ile Ala
            755   760   765

Gly Met Phe Ala Ala Thr Gly Gln Asp Leu Ala Gln Val Val Asp Ser
    770   775   780

Ser Ser Cys Leu Thr Gln Leu Glu Val Asp Leu Ser Asp Asp Ser Leu
785   790   795   800

25156216   - 649 -

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Val Ala Ser Val Thr Met Pro Cys Leu Glu Val Gly Thr Val Gly Gly
            805                 810                 815

Gly Thr Arg Leu Ser Gly Gln Arg Ala Cys Leu Asp Leu Leu Asp Leu
            820                 825                 830

Ser Val Asp Arg Pro Thr Glu His Leu Ser Arg Ile Ile Ala Gly Thr
            835                 840                 845

Val Leu Ala Ala Glu Leu Ser Leu Met Ala Ala Leu Asp Thr Asp Asp
    850                 855                 860

Leu Val Lys Ala His Met His Phe Asn Arg Ala Lys Gln Ser Thr Asn
865                 870                 875                 880

Ser His Ser Cys Ser His Ser Thr Thr Thr Asp Asn Asn Asp Asn Ile
            885                 890                 895

Ser Asn Ile Tyr Asp Asn His Asn Val Ala Leu Ser Ser Lys Ile Pro
            900                 905                 910

Val Thr Asp Asn Ser Asp Ile Arg Glu Ser Val His Ser Leu His Val
            915                 920                 925

Lys Pro Phe Pro Val Lys Ser Asp Leu Ser Val Asn Pro Glu Ile Ser
            930                 935                 940

His Tyr Thr Met
945


<210>  359
<211>  887
<212>  PRT
<213>  Cricetulus griseus

<400>  359

Met Leu Ser Arg Leu Phe Arg Met His Gly Leu Phe Val Ala Ser His
1               5               10              15

Pro Trp Glu Val Ile Val Gly Thr Val Thr Leu Thr Ile Cys Met Met
            20              25              30

Ser Met Asn Met Phe Thr Gly Asn Asn Lys Ile Cys Gly Trp Asn Tyr
            35              40              45

Glu Cys Pro Lys Phe Glu Glu Asp Val Leu Ser Ser Asp Ile Ile Ile
```

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Leu Thr Ile Thr Arg Cys Ile Ala Ile Leu Tyr Ile Tyr Phe Gln Phe
65              70              75              80


Gln Asn Leu Arg Gln Leu Gly Ser Lys Tyr Ile Leu Gly Ile Ala Gly
            85              90              95


Leu Phe Thr Ile Phe Ser Ser Phe Val Phe Ser Thr Val Val Ile His
            100             105             110


Phe Leu Asp Lys Glu Leu Thr Gly Leu Asn Glu Ala Leu Pro Phe Phe
            115             120             125


Leu Leu Leu Ile Asp Leu Ser Arg Ala Ser Ala Leu Ala Lys Phe Ala
            130             135             140


Leu Ser Ser Asn Ser Gln Asp Glu Val Arg Glu Asn Ile Ala Arg Gly
145             150             155             160


Met Ala Ile Leu Gly Pro Thr Phe Thr Leu Asp Ala Leu Val Glu Cys
                165             170             175


Leu Val Ile Gly Val Gly Thr Met Ser Gly Val Arg Gln Leu Glu Ile
            180             185             190


Met Cys Cys Phe Gly Cys Met Ser Val Leu Ala Asn Tyr Phe Val Phe
            195             200             205


Met Thr Phe Phe Pro Ala Cys Val Ser Leu Val Leu Glu Leu Ser Arg
    210             215             220


Glu Ser Arg Glu Gly Arg Pro Ile Trp Gln Leu Ser His Phe Ala Arg
225             230             235             240


Val Leu Glu Glu Glu Glu Asn Lys Pro Asn Pro Val Thr Gln Arg Val
            245             250             255


Lys Met Ile Met Ser Leu Gly Leu Val Leu Val His Ala His Ser Arg
            260             265             270


Trp Ile Ala Asp Pro Ser Pro Gln Asn Ser Thr Thr Glu His Ser Lys
    275             280             285


Val Ser Leu Gly Leu Asp Glu Asp Val Ser Lys Arg Ile Glu Pro Ser
    290             295             300
```

```
Val Ser Leu Trp Gln Phe Tyr Leu Ser Lys Met Ile Ser Met Asp Ile
305             310             315             320

Glu Gln Val Val Thr Leu Ser Leu Ala Phe Leu Leu Ala Val Lys Tyr
                325             330             335

Ile Phe Phe Glu Gln Ala Glu Thr Glu Ser Thr Leu Ser Leu Lys Asn
            340             345             350

Pro Ile Thr Ser Pro Val Val Thr Pro Lys Lys Ala Pro Asp Asn Cys
        355             360             365

Cys Arg Arg Glu Pro Leu Leu Val Arg Arg Ser Glu Lys Leu Ser Ser
    370             375             380

Val Glu Glu Glu Pro Gly Val Ser Gln Asp Arg Lys Val Glu Val Ile
385             390             395             400

Lys Pro Leu Val Val Glu Thr Glu Ser Ala Ser Arg Ala Thr Phe Val
            405             410             415

Leu Gly Ala Ser Gly Thr Ser Pro Pro Val Ala Ala Arg Thr Gln Glu
        420             425             430

Leu Glu Ile Glu Leu Pro Ser Glu Pro Arg Pro Asn Glu Glu Cys Leu
    435             440             445

Gln Ile Leu Glu Ser Ala Glu Lys Gly Ala Lys Phe Leu Ser Asp Ala
    450             455             460

Glu Ile Ile Gln Leu Val Asn Ala Lys His Ile Pro Ala Tyr Lys Leu
465             470             475             480

Glu Thr Leu Met Glu Thr His Glu Arg Gly Val Ser Ile Arg Arg Gln
            485             490             495

Leu Leu Ser Thr Lys Leu Pro Glu Pro Ser Ser Leu Gln Tyr Leu Pro
        500             505             510

Tyr Arg Asp Tyr Asn Tyr Ser Leu Val Met Gly Ala Cys Cys Glu Asn
        515             520             525

Val Ile Gly Tyr Met Pro Ile Pro Val Gly Val Ala Gly Pro Leu Cys
    530             535             540
```

```
Leu Asp Gly Lys Glu Tyr Gln Val Pro Met Ala Thr Thr Glu Gly Cys
545                 550             555                 560

Leu Val Ala Ser Thr Asn Arg Gly Cys Arg Ala Ile Gly Leu Gly Gly
                565             570             575

Gly Ala Ser Ser Arg Val Leu Ala Asp Gly Met Thr Arg Gly Pro Val
            580             585             590

Val Arg Leu Pro Arg Ala Cys Asp Ser Ala Glu Val Lys Ala Trp Leu
        595             600             605

Glu Thr Pro Glu Gly Phe Ala Val Ile Lys Asp Ala Phe Asp Ser Thr
    610             615             620

Ser Arg Phe Ala Arg Leu Gln Lys Leu His Val Thr Met Ala Gly Arg
625             630             635                 640

Asn Leu Tyr Ile Arg Phe Gln Ser Lys Thr Gly Asp Ala Met Gly Met
            645             650             655

Asn Met Ile Ser Lys Gly Thr Glu Lys Ala Leu Leu Lys Leu Gln Glu
            660             665             670

Phe Phe Pro Glu Met Gln Ile Leu Ala Val Ser Gly Asn Tyr Cys Thr
        675             680             685

Asp Lys Lys Pro Ala Ala Ile Asn Trp Ile Glu Gly Arg Gly Lys Thr
    690             695             700

Val Val Cys Glu Ala Val Ile Pro Ala Lys Val Val Arg Glu Val Leu
705             710             715                 720

Lys Thr Thr Thr Glu Ala Met Ile Asp Val Asn Ile Asn Lys Asn Leu
                725             730             735

Val Gly Ser Ala Met Ala Gly Ser Ile Gly Gly Tyr Asn Ala His Ala
            740             745             750

Ala Asn Ile Val Thr Ala Ile Tyr Ile Ala Cys Gly Gln Asp Ala Ala
        755             760             765

Gln Asn Val Gly Ser Ser Asn Cys Ile Thr Leu Met Glu Ala Ser Gly
    770             775             780
```

```
Pro Thr Asn Glu Asp Leu Tyr Ile Ser Cys Thr Met Pro Ser Ile Glu
785             790             795             800


Ile Gly Thr Val Gly Gly Gly Thr Asn Leu Leu Pro Gln Gln Ala Cys
            805             810             815


Leu Gln Met Leu Gly Val Gln Gly Ala Cys Lys Asp Asn Pro Gly Glu
        820             825             830


Asn Ala Arg Gln Leu Ala Arg Ile Val Cys Gly Thr Val Met Ala Gly
        835             840             845


Glu Leu Ser Leu Met Ala Ala Leu Ala Ala Gly His Leu Val Arg Ser
    850             855             860


His Met Val His Asn Arg Ser Lys Ile Asn Leu Gln Asp Leu Gln Gly
865             870             875             880


Thr Cys Thr Lys Lys Ser Ala
                885
```

<210> 360
<211> 44
<212> PRT
<213> Pseudomonas mevalonii

<400> 360

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His Ala Arg Asn Ile Ala Val Val Ala Gly Ala Arg Gly Asp Glu Val
1               5               10              15


Asp Trp Val Ala Arg Gln Leu Val Glu Tyr His Asp Val Arg Ala Asp
            20              25              30


Arg Ala Val Ala Val Leu Lys Gln Lys Arg Gly Gln
        35              40
```

<210> 361
<211> 2792
<212> DNA
<213> Stevia rebaudiana

<400> 361
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gacctgacga cgcctttaat ctctgttgga ccacctaaca aaattccgac catcagatct     120

actccggtgg acagtttcat ttgcaattta gtaaatcagc aaactaaaca tcaatgaatc     180

tttcactatg catcgcgtcc cctttgttaa ccaaatcaaa tcgacccgcg gctctgtcag     240
```

```
ctattcatac agcatcaact tcacatggtg gacaaactaa tcccactaat ctgatcattg    300

atacaaccaa agaacggatc caaaaacagt ttaaaaatgt agaaatttct gtttcttcat    360

atgacacagc atgggtagcc atggtccctt ctccaaactc acccaaatcg ccttgtttcc    420

ctgagtgtct caattggtta attaataatc agcttaatga tggttcatgg ggtcttgtta    480

atcacactca taatcataat cacccgttgc ttaaagattc tctatcttca acattagcat    540

gtattgttgc attaaaaaga tggaatgttg gggaagatca aataaataaa ggtctaagtt    600

ttattgagtc aaatcttgct tcagctactg aaaaaagtca accatctccc attggttttg    660

acatcatatt tcctggtttg cttgagtatg cgaaaaactt ggacataaac ctcctttcaa    720

aacaaacaga ttttagtttg atgctacata agagggaatt ggagcaaaaa agatgccatt    780

caaatgagat ggatggatac ttggcgtata tctctgaagg actcggtaat ttatatgatt    840

ggaatatggt gaagaaatat cagatgaaaa atggttctgt tttcaactca ccatcagcaa    900

cagctgctgc tttcattaat catcaaaatc ctggttgtct taattattta aattcacttt    960

tggacaagtt tggtaatgca gtcccaacag tttatcctca tgatttattt atccgacttt   1020

ctatggttga cacaattgaa agattaggaa tttcacacca tttcagagtg gaaattaaaa   1080

atgttttaga tgaaacatac agatgttggg tggaacgaga tgagcaaata ttcatggatg   1140

ttgtaacatg tgctttagcc tttcggttat taaggatcaa tgggtatgaa gtttccccag   1200

atccattggc tgaaattact aatgaattag ctttgaaaga cgaatatgca gctcttgaaa   1260

catatcatgc gtcacatata ttataccaag aggatttatc ttctggaaaa caaatcttga   1320

agtcagctga tttcctcaaa gagataatat ccactgattc aaacaggctt tctaaattaa   1380

ttcacaaaga ggtggaaaat gctcttaagt tccctatcaa taccggttta gaacgcataa   1440

acactagacg aaatatacag ctttacaatg tagacaatac aagaattctg aaaactacat   1500

atcactcatc aaatattagt aacactgatt acctaaggtt ggctgttgaa gatttctaca   1560

cctgccaatc tatttatcgt gaagaattaa aaggtcttga aaggtgggtg gtagagaata   1620

agttggacca gctcaagttt gctaggcaaa agaccgccta ctgttatttc tctgttgctg   1680

caacactttc gtctcccgaa ttatcagatg cgcgtatttc atgggccaaa aatggcatat   1740

taactacagt agttgatgac ttttttgata tcggtggtac aatcgatgaa ttgaccaacc   1800

tgattcaatg tgttgaaaaa tggaatgtag atgtcgacaa ggattgttgt tcagagcatg   1860

ttcggatttt attttttagca ttaaaagatg caatctgttg gattggagat gaagctttta   1920

aatggcaagc gcgcgatgta actagccatg ttattcaaac ttggttggaa ctaatgaata   1980

gtatgttgag agaagctata tggacaagag atgcttatgt gccaacatta aatgaatata   2040

tggaaaacgc ttacgtgtca tttgcattag ccccgattgt caagccggct atttactttg   2100
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tggggcccaa attatcagag gagattgttg aaagctctga atatcataat ctatttaagc    2160

taatgagcac gcagggtcga cttctaaacg atatccatag cttcaagagg gaatttaagg    2220

aaggcaaatt aaacgcggta gcattgcatt tgagtaacgg agaaagtggg aaagtggaag    2280

aagaggttgt ggaggagatg atgatgatga ttaaaaacaa gaggaaagaa ttaatgaaat    2340

taatttttga agaaaatggt agcattgttc ctagagcttg taaagatgca ttttggaaca    2400

tgtgtcacgt gttgaatttt ttttacgcaa acgatgacgg gtttactgga aacacgattc    2460

ttgatactgt gaaggacatc atttacaacc cgttggtgct tgtgaatgaa aatgaagaac    2520

aaaggtaatt ggcctttaaa agatgataat aatatcatgc tcttgacggg ggtactgttg    2580

tagttgtata ataaaggttg tagttgtata ataaaggtaa taggtaatca atagaaagct    2640

taagttatta agttttccc tcgtgtcaca cacggtgagg ttcttgttaa agcagtttat    2700

tttatgttta gtacgacact tggtggttgt tcgttgttta ttctctaaga ggctttcact    2760

ttgttcttaa aaaaaaaaa aaaaaaaaaa aa                                   2792


<210>   362
<211>   3117
<212>   DNA
<213>   Stevia rebaudiana

<400>   362
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acaagcaata caatatcctc ttagattcac tctacatagg atttaggatg cattgttatt    180

atcctaaaat catcttcatt ttgatccatt gcactgcctg ctccgtaagc ttcttatgat    240

tcggataatt ccggtagaga ataaagttcg gagtatgcat cattgaagtt aatattctgg    300

attgatgttc gttaggaatt ggtacagtag aaaattagct agtttgcttg atttgaccta    360

gaatatagct tcagaaattt gttaatctgt gagcaatgat tcagatgttg ataacttttg    420

gggcaacttc atgttaaaaa acttatatat taaaatgttt tcaagttggt gttgcagtaa    480

atcagcaaac taaacatcaa tgaatctttc actatgcatt gcgtcccctt tgttaaccaa    540

atcaagtcga cccacggctc tgtcagctat tcatacagca tcaacttcac atggtggaca    600

aactaatccc actaatctga tcattgatac aaccaaagaa cggatccaaa aactgtttaa    660

aaatgtagaa atttctgttt cttcatatga cacagcatgg gtagccatgg tcccttctcc    720

aaactcaccc aaatcgcctt gtttccctga gtgtctcaat tggttaatta ataatcagct    780

taatgatggt tcatggggtc ttgttaatca cactcataat cataatcacc cgttgcttaa    840

agattctcta tcttcaacat tagcatgtat tgttgcatta aaaagatgga atgttgggga    900
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gattcaagga ccatcaactt tcatattgca aaagttctct ttgaaaaagt tgtttaatca    2460

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atggctcatg gggcctactc cacaacgatc agttgctgat gaaggccaat ctcttatcta    480

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tatatgctcg attacacatg gttgatagcc ttcaaaaatt cggaattgct cggcatttca   1020

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ccatgtttga acaacccatg gatctggatg cactattgaa caaatgaacg aacaacaaac      2520

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ggcagcctca ggctcgccgg gtggtggagc gcgcagcagc aggccccggc cacgcgacga       240

caacgcagca gcccgacaac gtctccagtg ctaaagtgtt ccagaccagc cgtgtggaaa       300

ccgagtcgaa attgcgaaat ggcaggaaac cacaagacct tgaggatgag caccaggctg       360

aggaggcaga gctgcagcca cttatcgacc aggtgagggc gatgctacgg tcgatgaacg       420

acggggatac cagcgcctcg gcgtacgaca cggcgtgggt ggcgatggtg ccgaaggtgg       480

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<212> PRT
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<400> 383

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Gly Gln Thr Asn Pro Thr Asn Leu Ile Ile Asp Thr Thr Lys Glu Arg
            35   40   45

Ile Gln Lys Gln Phe Lys Asn Val Glu Ile Ser Val Ser Ser Tyr Asp
        50   55   60

Thr Ala Trp Val Ala Met Val Pro Ser Pro Asn Ser Pro Lys Ser Pro
65   70   75   80

Cys Phe Pro Glu Cys Leu Asn Trp Leu Ile Asn Asn Gln Leu Asn Asp
                85   90   95

Gly Ser Trp Gly Leu Val Asn His Thr His Asn His Asn His Pro Leu
            100   105   110

Leu Lys Asp Ser Leu Ser Ser Thr Leu Ala Cys Ile Val Ala Leu Lys
            115   120   125

Arg Trp Asn Val Gly Glu Asp Gln Ile Asn Lys Gly Leu Ser Phe Ile
    130   135   140

Glu Ser Asn Leu Ala Ser Ala Thr Glu Lys Ser Gln Pro Ser Pro Ile
145   150   155   160

Gly Phe Asp Ile Ile Phe Pro Gly Leu Leu Glu Tyr Ala Lys Asn Leu
                165   170   175

25156216   - 762 -

Asp Ile Asn Leu Leu Ser Lys Gln Thr Asp Phe Ser Leu Met Leu His
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Lys Arg Glu Leu Glu Gln Lys Arg Cys His Ser Asn Glu Met Asp Gly
        195   200   205

Tyr Leu Ala Tyr Ile Ser Glu Gly Leu Gly Asn Leu Tyr Asp Trp Asn
        210   215   220

Met Val Lys Lys Tyr Gln Met Lys Asn Gly Ser Val Phe Asn Ser Pro
225   230   235   240

Ser Ala Thr Ala Ala Ala Phe Ile Asn His Gln Asn Pro Gly Cys Leu
                245   250   255

Asn Tyr Leu Asn Ser Leu Leu Asp Lys Phe Gly Asn Ala Val Pro Thr
        260   265   270

Val Tyr Pro His Asp Leu Phe Ile Arg Leu Ser Met Val Asp Thr Ile
        275   280   285

Glu Arg Leu Gly Ile Ser His His Phe Arg Val Glu Ile Lys Asn Val
        290   295   300

Leu Asp Glu Thr Tyr Arg Cys Trp Val Glu Arg Asp Glu Gln Ile Phe
305   310   315   320

Met Asp Val Val Thr Cys Ala Leu Ala Phe Arg Leu Leu Arg Ile Asn
                325   330   335

Gly Tyr Glu Val Ser Pro Asp Pro Leu Ala Glu Ile Thr Asn Glu Leu
        340   345   350

Ala Leu Lys Asp Glu Tyr Ala Ala Leu Glu Thr Tyr His Ala Ser His
        355   360   365

Ile Leu Tyr Gln Glu Asp Leu Ser Ser Gly Lys Gln Ile Leu Lys Ser
        370   375   380

Ala Asp Phe Leu Lys Glu Ile Ile Ser Thr Asp Ser Asn Arg Leu Ser
385   390   395   400

Lys Leu Ile His Lys Glu Val Glu Asn Ala Leu Lys Phe Pro Ile Asn
                405   410   415

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Thr Gly Leu Glu Arg Ile Asn Thr Arg Arg Asn Ile Gln Leu Tyr Asn
        420               425               430

Val Asp Asn Thr Arg Ile Leu Lys Thr Thr Tyr His Ser Ser Asn Ile
        435               440               445

Ser Asn Thr Asp Tyr Leu Arg Leu Ala Val Glu Asp Phe Tyr Thr Cys
        450               455               460

Gln Ser Ile Tyr Arg Glu Glu Leu Lys Gly Leu Glu Arg Trp Val Val
465               470               475               480

Glu Asn Lys Leu Asp Gln Leu Lys Phe Ala Arg Gln Lys Thr Ala Tyr
                485               490               495

Cys Tyr Phe Ser Val Ala Ala Thr Leu Ser Ser Pro Glu Leu Ser Asp
        500               505               510

Ala Arg Ile Ser Trp Ala Lys Asn Gly Ile Leu Thr Thr Val Val Asp
        515               520               525

Asp Phe Phe Asp Ile Gly Gly Thr Ile Asp Glu Leu Thr Asn Leu Ile
        530               535               540

Gln Cys Val Glu Lys Trp Asn Val Asp Val Asp Lys Asp Cys Cys Ser
545               550               555               560

Glu His Val Arg Ile Leu Phe Leu Ala Leu Lys Asp Ala Ile Cys Trp
                565               570               575

Ile Gly Asp Glu Ala Phe Lys Trp Gln Ala Arg Asp Val Thr Ser His
                580               585               590

Val Ile Gln Thr Trp Leu Glu Leu Met Asn Ser Met Leu Arg Glu Ala
        595               600               605

Ile Trp Thr Arg Asp Ala Tyr Val Pro Thr Leu Asn Glu Tyr Met Glu
        610               615               620

Asn Ala Tyr Val Ser Phe Ala Leu Gly Pro Ile Val Lys Pro Ala Ile
625               630               635               640

Tyr Phe Val Gly Pro Lys Leu Ser Glu Glu Ile Val Glu Ser Ser Glu
                645               650               655
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Tyr His Asn Leu Phe Lys Leu Met Ser Thr Gln Gly Arg Leu Leu Asn
            660                 665                 670

Asp Ile His Ser Phe Lys Arg Glu Phe Lys Glu Gly Lys Leu Asn Ala
            675                 680                 685

Val Ala Leu His Leu Ser Asn Gly Glu Ser Gly Lys Val Glu Glu Glu
            690                 695                 700

Val Val Glu Glu Met Met Met Met Ile Lys Asn Lys Arg Lys Glu Leu
705                 710                 715                 720

Met Lys Leu Ile Phe Glu Glu Asn Gly Ser Ile Val Pro Arg Ala Cys
                725                 730                 735

Lys Asp Ala Phe Trp Asn Met Cys His Val Leu Asn Phe Phe Tyr Ala
            740                 745                 750

Asn Asp Asp Gly Phe Thr Gly Asn Thr Ile Leu Asp Thr Val Lys Asp
            755                 760                 765

Ile Ile Tyr Asn Pro Leu Val Leu Val Asn Glu Asn Glu Glu Gln Arg
    770                 775                 780


<210>   384
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<212>   PRT
<213>   Stevia rebaudiana

<400>   384

Met Asn Leu Ser Leu Cys Ile Ala Ser Pro Leu Leu Thr Lys Ser Ser
1                   5                   10                  15

Arg Pro Thr Ala Leu Ser Ala Ile His Thr Ala Ser Thr Ser His Gly
            20                  25                  30

Gly Gln Thr Asn Pro Thr Asn Leu Ile Ile Asp Thr Thr Lys Glu Arg
            35                  40                  45

Ile Gln Lys Leu Phe Lys Asn Val Glu Ile Ser Val Ser Ser Tyr Asp
    50                  55                  60

Thr Ala Trp Val Ala Met Val Pro Ser Pro Asn Ser Pro Lys Ser Pro
65                  70                  75                  80

Cys Phe Pro Glu Cys Leu Asn Trp Leu Ile Asn Asn Gln Leu Asn Asp
                85                  90                  95
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Gly Ser Trp Gly Leu Val Asn His Thr His Asn His Asn His Pro Leu
          100              105              110

Leu Lys Asp Ser Leu Ser Ser Thr Leu Ala Cys Ile Val Ala Leu Lys
          115              120              125

Arg Trp Asn Val Gly Glu Asp Gln Ile Asn Lys Gly Leu Ser Phe Ile
          130              135              140

Glu Ser Asn Leu Ala Ser Ala Thr Asp Lys Ser Gln Pro Ser Pro Ile
145              150              155              160

Gly Phe Asp Ile Ile Phe Pro Gly Leu Leu Glu Tyr Ala.Lys Asn Leu
              165              170              175

Asp Ile Asn Leu Leu Ser Lys Gln Thr Asp Phe Ser Leu Met Leu His
          180              185              190

Lys Arg Glu Leu Glu Gln Lys Arg Cys His Ser Asn Glu Ile Asp Gly
          195              200              205

Tyr Leu Ala Tyr Ile Ser Glu Gly Leu Gly Asn Leu Tyr Asp Trp Asn
210              215              220

Met Val Lys Lys Tyr Gln Met Lys Asn Gly Ser Val Phe Asn Ser Pro
225              230              235              240

Ser Ala Thr Ala Ala Ala Phe Ile Asn His Gln Asn Pro Gly Cys Leu
              245              250              255

Asn Tyr Leu Asn Ser Leu Leu Asp Lys Phe Gly Asn Ala Val Pro Thr
          260              265              270

Val Tyr Pro Leu Asp Leu Tyr Ile Arg Leu Ser Met Val Asp Thr Ile
          275              280              285

Glu Arg Leu Gly Ile Ser His His Phe Arg Val Glu Ile Lys Asn Val
          290              295              300

Leu Asp Glu Thr Tyr Arg Cys Trp Val Glu Arg Asp Glu Gln Ile Phe
305              310              315              320

Met Asp Val Val Thr Cys Ala Leu Ala Phe Arg Leu Leu Arg Ile His
              325              330              335
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Gly Tyr Lys Val Ser Pro Asp Gln Leu Ala Glu Ile Thr Asn Glu Leu
        340   345   350

Ala Phe Lys Asp Glu Tyr Ala Ala Leu Glu Thr Tyr His Ala Ser Gln
        355   360   365

Ile Leu Tyr Gln Glu Asp Leu Ser Ser Gly Lys Gln Ile Leu Lys Ser
        370   375   380

Ala Asp Phe Leu Lys Gly Ile Leu Ser Thr Asp Ser Asn Arg Leu Ser
385   390   395   400

Lys Leu Ile His Lys Glu Val Glu Asn Ala Leu Lys Phe Pro Ile Asn
                405   410   415

Thr Gly Leu Glu Arg Ile Asn Thr Arg Arg Asn Ile Gln Leu Tyr Asn
        420   425   430

Val Asp Asn Thr Arg Ile Leu Lys Thr Thr Tyr His Ser Ser Asn Ile
        435   440   445

Ser Asn Thr Tyr Tyr Leu Arg Leu Ala Val Glu Asp Phe Tyr Thr Cys
        450   455   460

Gln Ser Ile Tyr Arg Glu Glu Leu Lys Gly Leu Glu Arg Trp Val Val
465   470   475   480

Gln Asn Lys Leu Asp Gln Leu Lys Phe Ala Arg Gln Lys Thr Ala Tyr
                485   490   495

Cys Tyr Phe Ser Val Ala Ala Thr Leu Ser Ser Pro Glu Leu Ser Asp
            500   505   510

Ala Arg Ile Ser Trp Ala Lys Asn Gly Ile Leu Thr Thr Val Val Asp
        515   520   525

Asp Phe Phe Asp Ile Gly Gly Thr Ile Asp Glu Leu Thr Asn Leu Ile
        530   535   540

Gln Cys Val Glu Lys Trp Asn Val Asp Val Asp Lys Asp Cys Cys Ser
545   550   555   560

Glu His Val Arg Ile Leu Phe Leu Ala Leu Lys Asp Ala Ile Cys Trp
                565   570   575

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Ile Gly Asp Glu Ala Phe Lys Trp Gln Ala Arg Asp Val Thr Ser His
        580             585             590

Val Ile Gln Thr Trp Leu Glu Leu Met Asn Ser Met Leu Arg Glu Ala
        595             600             605

Ile Trp Thr Arg Asp Ala Tyr Val Pro Thr Leu Asn Glu Tyr Met Glu
    610             615             620

Asn Ala Tyr Val Ser Phe Ala Leu Gly Pro Ile Val Lys Pro Ala Ile
625             630             635             640

Tyr Phe Val Gly Pro Lys Leu Ser Glu Glu Ile Val Glu Ser Ser Glu
            645             650             655

Tyr His Asn Leu Phe Lys Leu Met Ser Thr Gln Gly Arg Leu Leu Asn
        660             665             670

Asp Ile His Ser Phe Lys Arg Glu Phe Lys Glu Gly Lys Leu Asn Ala
        675             680             685

Val Ala Leu His Leu Ser Asn Gly Glu Ser Gly Lys Val Glu Glu Glu
    690             695             700

Val Val Glu Glu Met Met Met Met Ile Lys Asn Lys Arg Lys Glu Leu
705             710             715             720

Met Lys Leu Ile Phe Glu Glu Asn Gly Ser Ile Val Pro Arg Ala Cys
            725             730             735

Lys Asp Ala Phe Trp Asn Met Cys His Val Leu Asn Phe Phe Tyr Ala
            740             745             750

Asn Asp Asp Gly Phe Thr Gly Asn Thr Ile Leu Asp Thr Val Lys Asp
        755             760             765

Ile Ile Tyr Asn Pro Leu Val Leu Val Asn Glu Asn Glu Glu Gln Arg
    770             775             780


<210>  385
<211>  787
<212>  PRT
<213>  Stevia rebaudiana

<400>  385

Met Lys Thr Gly Phe Ile Ser Pro Ala Thr Val Phe His His Arg Ile
1               5               10              15
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Ser Pro Ala Thr Thr Phe Arg His His Leu Ser Pro Ala Thr Thr Asn
        20   25   30

Ser Thr Gly Ile Val Ala Leu Arg Asp Ile Asn Phe Arg Cys Lys Ala
        35   40   45

Val Ser Lys Glu Tyr Ser Asp Leu Leu Gln Lys Asp Glu Ala Ser Phe
        50   55   60

Thr Lys Trp Asp Asp Asp Lys Val Lys Asp His Leu Asp Thr Asn Lys
65   70   75   80

Asn Leu Tyr Pro Asn Asp Glu Ile Lys Glu Phe Val Glu Ser Val Lys
            85   90   95

Ala Met Phe Gly Ser Met Asn Asp Gly Glu Ile Asn Val Ser Ala Tyr
        100   105   110

Asp Thr Ala Trp Val Ala Leu Val Gln Asp Val Asp Gly Ser Gly Ser
        115   120   125

Pro Gln Phe Pro Ser Ser Leu Glu Trp Ile Ala Asn Asn Gln Leu Ser
        130   135   140

Asp Gly Ser Trp Gly Asp His Leu Leu Phe Ser Ala His Asp Arg Ile
145   150   155   160

Ile Asn Thr Leu Ala Cys Val Ile Ala Leu Thr Ser Trp Asn Val His
            165   170   175

Pro Ser Lys Cys Glu Lys Gly Leu Asn Phe Leu Arg Glu Asn Ile Cys
            180   185   190

Lys Leu Glu Asp Glu Asn Ala Glu His Met Pro Ile Gly Phe Glu Val
        195   200   205

Thr Phe Pro Ser Leu Ile Asp Ile Ala Lys Lys Leu Asn Ile Glu Val
        210   215   220

Pro Glu Asp Thr Pro Ala Leu Lys Glu Ile Tyr Ala Arg Arg Asp Ile
225   230   235   240

Lys Leu Thr Lys Ile Pro Met Glu Val Leu His Lys Val Pro Thr Thr
            245   250   255

```
Leu Leu His Ser Leu Glu Gly Met Pro Asp Leu Glu Trp Glu Lys Leu
        260             265             270

Leu Lys Leu Gln Cys Lys Asp Gly Ser Phe Leu Phe Ser Pro Ser Ser
        275             280             285

Thr Ala Phe Ala Leu Met Gln Thr Lys Asp Glu Lys Cys Leu Gln Tyr
    290             295             300

Leu Thr Asn Ile Val Thr Lys Phe Asn Gly Gly Val Pro Asn Val Tyr
305             310             315             320

Pro Val Asp Leu Phe Glu His Ile Trp Val Val Asp Arg Leu Gln Arg
            325             330             335

Leu Gly Ile Ala Arg Tyr Phe Lys Ser Glu Ile Lys Asp Cys Val Glu
        340             345             350

Tyr Ile Asn Lys Tyr Trp Thr Lys Asn Gly Ile Cys Trp Ala Arg Asn
        355             360             365

Thr His Val Gln Asp Ile Asp Asp Thr Ala Met Gly Phe Arg Val Leu
    370             375             380

Arg Ala His Gly Tyr Asp Val Thr Pro Asp Val Phe Arg Gln Phe Glu
385             390             395             400

Lys Asp Gly Lys Phe Val Cys Phe Ala Gly Gln Ser Thr Gln Ala Val
            405             410             415

Thr Gly Met Phe Asn Val Tyr Arg Ala Ser Gln Met Leu Phe Pro Gly
        420             425             430

Glu Arg Ile Leu Glu Asp Ala Lys Lys Phe Ser Tyr Asn Tyr Leu Lys
        435             440             445

Glu Lys Gln Ser Thr Asn Glu Leu Leu Asp Lys Trp Ile Ile Ala Lys
    450             455             460

Asp Leu Pro Gly Glu Val Gly Tyr Ala Leu Asp Ile Pro Trp Tyr Ala
465             470             475             480

Ser Leu Pro Arg Leu Glu Thr Arg Tyr Tyr Leu Glu Gln Tyr Gly Gly
            485             490             495
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Glu Asp Asp Val Trp Ile Gly Lys Thr Leu Tyr Arg Met Gly Tyr Val
        500   505   510

Ser Asn Asn Thr Tyr Leu Glu Met Ala Lys Leu Asp Tyr Asn Asn Tyr
        515   520   525

Val Ala Val Leu Gln Leu Glu Trp Tyr Thr Ile Gln Gln Trp Tyr Val
        530   535   540

Asp Ile Gly Ile Glu Lys Phe Glu Ser Asp Asn Ile Lys Ser Val Leu
545   550   555   560

Val Ser Tyr Tyr Leu Ala Ala Ala Ser Ile Phe Glu Pro Glu Arg Ser
        565   570   575

Lys Glu Arg Ile Ala Trp Ala Lys Thr Thr Ile Leu Val Asp Lys Ile
        580   585   590

Thr Ser Ile Phe Asp Ser Ser Gln Ser Ser Lys Glu Asp Ile Thr Ala
        595   600   605

Phe Ile Asp Lys Phe Arg Asn Lys Ser Ser Ser Lys Lys His Ser Ile
        610   615   620

Asn Gly Glu Pro Trp His Glu Val Met Val Ala Leu Lys Lys Thr Leu
625   630   635   640

His Gly Phe Ala Leu Asp Ala Leu Met Thr His Ser Gln Asp Ile His
        645   650   655

Pro Gln Leu His Gln Ala Trp Glu Met Trp Leu Thr Lys Leu Gln Asp
        660   665   670

Gly Val Asp Val Thr Ala Glu Leu Met Val Gln Met Ile Asn Met Thr
        675   680   685

Ala Gly Arg Trp Val Ser Lys Glu Leu Leu Thr His Pro Gln Tyr Gln
        690   695   700

Arg Leu Ser Thr Val Thr Asn Ser Val Cys His Asp Ile Thr Lys Leu
705   710   715   720

His Asn Phe Lys Glu Asn Ser Thr Thr Val Asp Ser Lys Val Gln Glu
        725   730   735

Leu Val Gln Leu Val Phe Ser Asp Thr Pro Asp Asp Leu Asp Gln Asp

Met Lys Gln Thr Phe Leu Thr Val Met Lys Thr Phe Tyr Tyr Lys Ala
        755   760   765

Trp Cys Asp Pro Asn Thr Ile Asn Asp His Ile Ser Lys Val Phe Glu
        770   775   780

Ile Val Ile
785

<210> 386
<211> 862
<212> PRT
<213> Taxus brevifolia

<400> 386

Met Ala Gln Leu Ser Phe Asn Ala Ala Leu Lys Met Asn Ala Leu Gly
1   5   10   15

Asn Lys Ala Ile His Asp Pro Thr Asn Cys Arg Ala Lys Ser Glu Arg
            20   25   30

Gln Met Met Trp Val Cys Ser Arg Ser Gly Arg Thr Arg Val Lys Met
            35   40   45

Ser Arg Gly Ser Gly Gly Pro Gly Pro Val Val Met Met Ser Ser Ser
    50   55   60

Thr Gly Thr Ser Lys Val Val Ser Glu Thr Ser Ser Thr Ile Val Asp
65   70   75   80

Asp Ile Pro Arg Leu Ser Ala Asn Tyr His Gly Asp Leu Trp His His
            85   90   95

Asn Val Ile Gln Thr Leu Glu Thr Pro Phe Arg Glu Ser Ser Thr Tyr
            100   105   110

Gln Glu Arg Ala Asp Glu Leu Val Val Lys Ile Lys Asp Met Phe Asn
        115   120   125

Ala Leu Gly Asp Gly Asp Ile Ser Pro Ser Ala Tyr Asp Thr Ala Trp
    130   135   140

Val Ala Arg Leu Ala Thr Ile Ser Ser Asp Gly Ser Glu Lys Pro Arg
145   150   155   160

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Phe Pro Gln Ala Leu Asn Trp Val Phe Asn Asn Gln Leu Gln Asp Gly
            165             170                 175

Ser Trp Gly Ile Glu Ser His Phe Ser Leu Cys Asp Arg Leu Leu Asn
            180             185                 190

Thr Thr Asn Ser Val Ile Ala Leu Ser Val Trp Lys Thr Gly His Ser
            195             200                 205

Gln Val Gln Gln Gly Ala Glu Phe Ile Ala Glu Asn Leu Arg Leu Leu
    210             215                 220

Asn Glu Glu Asp Glu Leu Ser Pro Asp Phe Gln Ile Ile Phe Pro Ala
225             230                 235                 240

Leu Leu Gln Lys Ala Lys Ala Leu Gly Ile Asn Leu Pro Tyr Asp Leu
            245             250                 255

Pro Phe Ile Lys Tyr Leu Ser Thr Thr Arg Glu Ala Arg Leu Thr Asp
            260             265                 270

Val Ser Ala Ala Ala Asp Asn Ile Pro Ala Asn Met Leu Asn Ala Leu
            275             280                 285

Glu Gly Leu Glu Glu Val Ile Asp Trp Asn Lys Ile Met Arg Phe Gln
    290             295                 300

Ser Lys Asp Gly Ser Phe Leu Ser Ser Pro Ala Ser Thr Ala Cys Val
305                 310                 315                 320

Leu Met Asn Thr Gly Asp Glu Lys Cys Phe Thr Phe Leu Asn Asn Leu
            325             330                 335

Leu Asp Lys Phe Gly Gly Cys Val Pro Cys Met Tyr Ser Ile Asp Leu
            340             345                 350

Leu Glu Arg Leu Ser Leu Val Asp Asn Ile Glu His Leu Gly Ile Gly
            355             360                 365

Arg His Phe Lys Gln Glu Ile Lys Gly Ala Leu Asp Tyr Val Tyr Arg
    370             375                 380

His Trp Ser Glu Arg Gly Ile Gly Trp Gly ,Arg Asp Ser Leu Val Pro
385                 390                 395                 400
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Asp Leu Asn Thr Thr Ala Leu Gly Leu Arg Thr Leu Arg Met His Gly
            405             410             415

Tyr Asn Val Ser Ser Asp Val Leu Asn Asn Phe Lys Asp Glu Asn Gly
            420             425             430

Arg Phe Phe Ser Ser Ala Gly Gln Thr His Val Glu Leu Arg Ser Val
            435             440             445

Val Asn Leu Phe Arg Ala Ser Asp Leu Ala Phe Pro Asp Glu Arg Ala
            450             455             460

Met Asp Asp Ala Arg Lys Phe Ala Glu Pro Tyr Leu Arg Glu Ala Leu
465             470             475             480

Ala Thr Lys Ile Ser Thr Asn Thr Lys Leu Phe Lys Glu Ile Glu Tyr
            485             490             495

Val Val Glu Tyr Pro Trp His Met Ser Ile Pro Arg Leu Glu Ala Arg
            500             505             510

Ser Tyr Ile Asp Ser Tyr Asp Asp Asn Tyr Val Trp Gln Arg Lys Thr
            515             520             525

Leu Tyr Arg Met Pro Ser Leu Ser Asn Ser Lys Cys Leu Glu Leu Ala
            530             535             540

Lys Leu Asp Phe Asn Ile Val Gln Ser Leu His Gln Glu Glu Leu Lys
545             550             555             560

Leu Leu Thr Arg Trp Trp Lys Glu Ser Gly Met Ala Asp Ile Asn Phe
                565             570             575

Thr Arg His Arg Val Ala Glu Val Tyr Phe Ser Ser Ala Thr Phe Glu
            580             585             590

Pro Glu Tyr Ser Ala Thr Arg Ile Ala Phe Thr Lys Ile Gly Cys Leu
            595             600             605

Gln Val Leu Phe Asp Asp Met Ala Asp Ile Phe Ala Thr Leu Asp Glu
            610             615             620

Leu Lys Ser Phe Thr Glu Gly Val Lys Arg Trp Asp Thr Ser Leu Leu
625             630             635             640

His Glu Ile Pro Glu Cys Met Gln Thr Cys Phe Lys Val Trp Phe Lys
```

Leu Met Glu Glu Val Asn Asn Asp Val Val Lys Val Gln Gly Arg Asp
            660   665   670

Met Leu Ala His Ile Arg Lys Pro Trp Glu Leu Tyr Phe Asn Cys Tyr
            675   680   685

Val Gln Glu Arg Glu Trp Leu Glu Ala Gly Tyr Ile Pro Thr Phe Glu
            690   695   700

Glu Tyr Leu Lys Thr Tyr Ala Ile Ser Val Gly Leu Gly Pro Cys Thr
705   710   715   720

Leu Gln Pro Ile Leu Leu Met Gly Glu Leu Val Lys Asp Asp Val Val
                725   730   735

Glu Lys Val His Tyr Pro Ser Asn Met Phe Glu Leu Val Ser Leu Ser
            740   745   750

Trp Arg Leu Thr Asn Asp Thr Lys Thr Tyr Gln Ala Glu Lys Ala Arg
            755   760   765

Gly Gln Gln Ala Ser Gly Ile Ala Cys Tyr Met Lys Asp Asn Pro Gly
            770   775   780

Ala Thr Glu Glu Asp Ala Ile Lys His Ile Cys Arg Val Val Asp Arg
785   790   795   800

Ala Leu Lys Glu Ala Ser Phe Glu Tyr Phe Lys Pro Ser Asn Asp Ile
                805   810   815

Pro Met Gly Cys Lys Ser Phe Ile Phe Asn Leu Arg Leu Cys Val Gln
            820   825   830

Ile Phe Tyr Lys Phe Ile Asp Gly Tyr Gly Ile Ala Asn Glu Glu Ile
            835   840   845

Lys Asp Tyr Ile Arg Lys Val Tyr Ile Asp Pro Ile Gln Val
    850   855   860

<210> 387
<211> 946
<212> PRT
<213> Phaeosphaeria sp.

<400> 387

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Met Phe Ala Lys Phe Asp Met Leu Glu Glu Glu Ala Arg Ala Leu Val
1             5                 10              15

Arg Lys Val Gly Asn Ala Val Asp Pro Ile Tyr Gly Phe Ser Thr Thr
            20                25              30

Ser Cys Gln Ile Tyr Asp Thr Ala Trp Ala Ala Met Ile Ser Lys Glu
            35                40              45

Glu His Gly Asp Lys Val Trp Leu Phe Pro Glu Ser Phe Lys Tyr Leu
            50                55              60

Leu Glu Lys Gln Gly Glu Asp Gly Ser Trp Glu Arg His Pro Arg Ser
65                70                75              80

Lys Thr Val Gly Val Leu Asn Thr Ala Ala Ala Cys Leu Ala Leu Leu
                85                90              95

Arg His Val Lys Asn Pro Leu Gln Leu Gln Asp Ile Ala Ala Gln Asp
            100               105             110

Ile Glu Leu Arg Ile Gln Arg Gly Leu Arg Ser Leu Glu Glu Gln Leu
            115               120             125

Ile Ala Trp Asp Asp Val Leu Asp Thr Asn His Ile Gly Val Glu Met
            130               135             140

Ile Val Pro Ala Leu Leu Asp Tyr Leu Gln Ala Glu Asp Glu Asn Val
145               150               155             160

Asp Phe Glu Phe Glu Ser His Ser Leu Leu Met Gln Met Tyr Lys Glu
                165               170             175

Lys Met Ala Arg Phe Ser Pro Glu Ser Leu Tyr Arg Ala Arg Pro Ser
            180               185             190

Ser Ala Leu His Asn Leu Glu Ala Leu Ile Gly Lys Leu Asp Phe Asp
            195               200   .           205

Lys Val Gly His His Leu Tyr Asn Gly Ser Met Met Ala Ser Pro Ser
    210               215               220

Ser Thr Ala Ala Phe Leu Met His Ala Ser Pro Trp Ser His Glu Ala
225               230               235             240
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Glu Ala Tyr Leu Arg His Val Phe Glu Ala Gly Thr Gly Lys Gly Ser
                245             250             255

Gly Gly Phe Pro Gly Thr Tyr Pro Thr Thr Tyr Phe Glu Leu Asn Trp
            260             265             270

Val Leu Ser Thr Leu Met Lys Ser Gly Phe Thr Leu Ser Asp Leu Glu
            275             280             285

Cys Asp Glu Leu Ser Ser Ile Ala Asn Thr Ile Ala Glu Gly Phe Glu
    290             295             300

Cys Asp His Gly Val Ile Gly Phe Ala Pro Arg Ala Val Asp Val Asp
305             310             315             320

Asp Thr Ala Lys Gly Leu Leu Thr Leu Thr Leu Leu Gly Met Asp Glu
            325             330             335

Gly Val Ser Pro Ala Pro Met Ile Ala Met Phe Glu Ala Lys Asp His
            340             345             350

Phe Leu Thr Phe Leu Gly Glu Arg Asp Pro Ser Phe Thr Ser Asn Cys
            355             360             365

His Val Leu Leu Ser Leu Leu His Arg Thr Asp Leu Leu Gln Tyr Leu
    370             375             380

Pro Gln Ile Arg Lys Thr Thr Thr Phe Leu Cys Glu Ala Trp Trp Ala
385             390             395             400

Cys Asp Gly Gln Ile Lys Asp Lys Trp His Leu Ser His Leu Tyr Pro
            405             410             415

Thr Met Leu Met Val Gln Ala Phe Ala Glu Ile Leu Leu Lys Ser Ala
            420             425             430

Glu Gly Glu Pro Leu His Asp Ala Phe Asp Ala Ala Thr Leu Ser Arg
            435             440             445

Val Ser Ile Cys Val Phe Gln Ala Cys Leu Arg Thr Leu Leu Ala Gln
    450             455             460

Ser Gln Asp Gly Ser Trp His Gly Gln Pro Glu Ala Ser Cys Tyr Ala
465             470             475             480

Val Leu Thr Leu Ala Glu Ser Gly Arg Leu Val Leu Leu Gln Ala Leu
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Gln Pro Gln Ile Ala Ala Ala Met Glu Lys Ala Ala Asp Val Met Gln
            500   505   510

Ala Gly Arg Trp Ser Cys Ser Asp His Asp Cys Asp Trp Thr Ser Lys
            515   520   525

Thr Ala Tyr Arg Val Asp Leu Val Ala Ala Ala Tyr Arg Leu Ala Ala
530   535   540

Met Lys Ala Ser Ser Asn Leu Thr Phe Thr Val Asp Asp Asn Val Ser
545   550   555   560

Lys Arg Ser Asn Gly Phe Gln Gln Leu Val Gly Arg Thr Asp Leu Phe
            565   570   575

Ser Gly Val Pro Ala Trp Glu Leu Gln Ala Ser Phe Leu Glu Ser Ala
            580   585   590

Leu Phe Val Pro Leu Leu Arg Asn His Arg Leu Asp Val Phe Asp Arg
            595   600   605

Asp Asp Ile Lys Val Ser Lys Asp His Tyr Leu Asp Met Ile Pro Phe
610   615   620

Thr Trp Val Gly Cys Asn Asn Arg Ser Arg Thr Tyr Val Ser Thr Ser
625   630   635   640

Phe Leu Phe Asp Met Met Ile Ile Ser Met Leu Gly Tyr Gln Ile Asp
            645   650   655

Glu Phe Phe Glu Ala Glu Ala Ala Pro Ala Phe Ala Gln Cys Ile Gly
            660   665   670

Gln Leu His Gln Val Val Asp Lys Val Val Asp Glu Val Ile Asp Glu
            675   680   685

Val Val Asp Lys Val Val Gly Lys Val Val Gly Lys Val Val Gly Lys
            690   695   700

Val Val Asp Glu Arg Val Asp Ser Pro Thr His Glu Ala Ile Ala Ile
705   710   715   720

Cys Asn Ile Glu Ala Ser Leu Arg Arg Phe Val Asp His Val Leu His
            725   730   735

His Gln His Val Leu His Ala Ser Gln Gln Glu Gln Asp Ile Leu Trp
        740   745   750

Arg Glu Leu Arg Ala Phe Leu His Ala His Val Val Gln Met Ala Asp
        755   760   765

Asn Ser Thr Leu Ala Pro Pro Gly Arg Thr Phe Phe Asp Trp Val Arg
        770   775   780

Thr Thr Ala Ala Asp His Val Ala Cys Ala Tyr Ser Phe Ala Phe Ala
785   790   795   800

Cys Cys Ile Thr Ser Ala Thr Ile Gly Gln Gly Gln Ser Met Phe Ala
            805   810   815

Thr Val Asn Glu Leu Tyr Leu Val Gln Ala Ala Ala Arg His Met Thr
        820   825   830

Thr Met Cys Arg Met Cys Asn Asp Ile Gly Ser Val Asp Arg Asp Phe
        835   840   845

Ile Glu Ala Asn Ile Asn Ser Val His Phe Pro Glu Phe Ser Thr Leu
        850   855   860

Ser Leu Val Ala Asp Lys Lys Lys Ala Leu Ala Arg Leu Ala Ala Tyr
865   870   875   880

Glu Lys Ser Cys Leu Thr His Thr Leu Asp Gln Phe Glu Asn Glu Val
            885   890   895

Leu Gln Ser Pro Arg Val Ser Ser Ala Ala Ser Gly Asp Phe Arg Thr
        900   905   910

Arg Lys Val Ala Val Val Arg Phe Phe Ala Asp Val Thr Asp Phe Tyr
        915   920   925

Asp Gln Leu Tyr Ile Leu Arg Asp Leu Ser Ser Ser Leu Lys His Val
        930   935   940

Gly Thr
945

<210> 388
<211> 868
<212> PRT

25156216   - 779 -

<213> Abies grandis

<400> 388

Met Ala Met Pro Ser Ser Ser Leu Ser Ser Gln Ile Pro Thr Ala Ala
1   5   10   15

His His Leu Thr Ala Asn Ala Gln Ser Ile Pro His Phe Ser Thr Thr
            20   25   30

Leu Asn Ala Gly Ser Ser Ala Ser Lys Arg Arg Ser Leu Tyr Leu Arg
            35   40   45

Trp Gly Lys Gly Ser Asn Lys Ile Ile Ala Cys Val Gly Glu Gly Gly
    50   55   60

Ala Thr Ser Val Pro Tyr Gln Ser Ala Glu Lys Asn Asp Ser Leu Ser
65   70   75   80

Ser Ser Thr Leu Val Lys Arg Glu Phe Pro Pro Gly Phe Trp Lys Asp
                85   90   95

Asp Leu Ile Asp Ser Leu Thr Ser Ser His Lys Val Ala Ala Ser Asp
            100   105   110

Glu Lys Arg Ile Glu Thr Leu Ile Ser Glu Ile Lys Asn Met Phe Arg
        115   120   125

Cys Met Gly Tyr Gly Glu Thr Asn Pro Ser Ala Tyr Asp Thr Ala Trp
    130   135   140

Val Ala Arg Ile Pro Ala Val Asp Gly Ser Asp Asn Pro His Phe Pro
145   150   155   160

Glu Thr Val Glu Trp Ile Leu Gln Asn Gln Leu Lys Asp Gly Ser Trp
            165   170   175

Gly Glu Gly Phe Tyr Phe Leu Ala Tyr Asp Arg Ile Leu Ala Thr Leu
            180   185   190

Ala Cys Ile Ile Thr Leu Thr Leu Trp Arg Thr Gly Glu Thr Gln Val
        195   200   205

Gln Lys Gly Ile Glu Phe Phe Arg Thr Gln Ala Gly Lys Met Glu Asp
    210   215   220

Glu Ala Asp Ser His Arg Pro Ser Gly Phe Glu Ile Val Phe Pro Ala

Met Leu Lys Glu Ala Lys Ile Leu Gly Leu Asp Leu Pro Tyr Asp Leu
            245   250   255

Pro Phe Leu Lys Gln Ile Ile Glu Lys Arg Glu Ala Lys Leu Lys Arg
            260   265   270

Ile Pro Thr Asp Val Leu Tyr Ala Leu Pro Thr Thr Leu Leu Tyr Ser
            275   280   285

Leu Glu Gly Leu Gln Glu Ile Val Asp Trp Gln Lys Ile Met Lys Leu
    290   295   300

Gln Ser Lys Asp Gly Ser Phe Leu Ser Ser Pro Ala Ser Thr Ala Ala
305   310   315   320

Val Phe Met Arg Thr Gly Asn Lys Lys Cys Leu Asp Phe Leu Asn Phe
            325   330   335

Val Leu Lys Lys Phe Gly Asn His Val Pro Cys His Tyr Pro Leu Asp
            340   345   350

Leu Phe Glu Arg Leu Trp Ala Val Asp Thr Val Glu Arg Leu Gly Ile
            355   360   365

Asp Arg His Phe Lys Glu Glu Ile Lys Glu Ala Leu Asp Tyr Val Tyr
    370   375   380

Ser His Trp Asp Glu Arg Gly Ile Gly Trp Ala Arg Glu Asn Pro Val
385   390   395   400

Pro Asp Ile Asp Asp Thr Ala Met Gly Leu Arg Ile Leu Arg Leu His
            405   410   415

Gly Tyr Asn Val Ser Ser Asp Val Leu Lys Thr Phe Arg Asp Glu Asn
            420   425   430

Gly Glu Phe Phe Cys Phe Leu Gly Gln Thr Gln Arg Gly Val Thr Asp
            435   440   445

Met Leu Asn Val Asn Arg Cys Ser His Val Ser Phe Pro Gly Glu Thr
    450   455   460

Ile Met Glu Glu Ala Lys Leu Cys Thr Glu Arg Tyr Leu Arg Asn Ala
465   470   475   480

Leu Glu Asn Val Asp Ala Phe Asp Lys Trp Ala Phe Lys Lys Asn Ile
            485   490   495

Arg Gly Glu Val Glu Tyr Ala Leu Lys Tyr Pro Trp His Lys Ser Met
            500   505   510

Pro Arg Leu Glu Ala Arg Ser Tyr Ile Glu Asn Tyr Gly Pro Asp Asp
            515   520   525

Val Trp Leu Gly Lys Thr Val Tyr Met Met Pro Tyr Ile Ser Asn Glu
            530   535   540

Lys Tyr Leu Glu Leu Ala Lys Leu Asp Phe Asn Lys Val Gln Ser Ile
545   550   555   560

His Gln Thr Glu Leu Gln Asp Leu Arg Arg Trp Trp Lys Ser Ser Gly
            565   570   575

Phe Thr Asp Leu Asn Phe Thr Arg Glu Arg Val Thr Glu Ile Tyr Phe
            580   585   590

Ser Pro Ala Ser Phe Ile Phe Glu Pro Glu Phe Ser Lys Cys Arg Glu
            595   600   605

Val Tyr Thr Lys Thr Ser Asn Phe Thr Val Ile Leu Asp Asp Leu Tyr
            610   615   620

Asp Ala His Gly Ser Leu Asp Asp Leu Lys Leu Phe Thr Glu Ser Val
625   630   635   640

Lys Arg Trp Asp Leu Ser Leu Val Asp Gln Met Pro Gln Gln Met Lys
            645   650   655

Ile Cys Phe Val Gly Phe Tyr Asn Thr Phe Asn Asp Ile Ala Lys Glu
            660   665   670

Gly Arg Glu Arg Gln Gly Arg Asp Val Leu Gly Tyr Ile Gln Asn Val
            675   680   685

Trp Lys Val Gln Leu Glu Ala Tyr Thr Lys Glu Ala Glu Trp Ser Glu
            690   695   700

Ala Lys Tyr Val Pro Ser Phe Asn Glu Tyr Ile Glu Asn Ala Ser Val
705   710   715   720

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Ser Ile Ala Leu Gly Thr Val Val Leu Ile Ser Ala Leu Phe Thr Gly
              725           730           735

Glu Val Leu Thr Asp Glu Val Leu Ser Lys Ile Asp Arg Glu Ser Arg
              740           745           750

Phe Leu Gln Leu Met Gly Leu Thr Gly Arg Leu Val Asn Asp Thr Lys
              755           760           765

Thr Tyr Gln Ala Glu Arg Gly Gln Gly Glu Val Ala Ser Ala Ile Gln
              770           775           780

Cys Tyr Met Lys Asp His Pro Lys Ile Ser Glu Glu Ala Leu Gln
785               790           795               800

His Val Tyr Ser Val Met Glu Asn Ala Leu Glu Glu Leu Asn Arg Glu
              805           810           815

Phe Val Asn Asn Lys Ile Pro Asp Ile Tyr Lys Arg Leu Val Phe Glu
              820           825           830

Thr Ala Arg Ile Met Gln Leu Phe Tyr Met Gln Gly Asp Gly Leu Thr
              835           840           845

Leu Ser His Asp Met Glu Ile Lys Glu His Val Lys Asn Cys Leu Phe
              850           855           860

Gln Pro Val Ala
865


<210>    389
<211>    785
<212>    PRT
<213>    Cucumis sativus

<400>    389

Met Asn Leu Ser Arg Pro Thr Asn Leu Gly Cys Phe Thr Ala Ser Ser
1               5               10               15

Ser Ala Ser Leu Phe Pro Gly Leu Asp Val Gly Thr Lys Thr Lys Thr
              20           25           30

Gly Ala Leu Arg Phe Glu Glu Thr Lys Glu Arg Ile Lys Lys Leu Phe
              35           40           45

Lys Asn Val Glu Leu Ser Ile Ser Ala Tyr Asp Thr Ala Trp Val Ala
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Met Val Pro Ser Pro Asn Ser Leu Asn Lys Pro Leu Phe Pro Glu Cys
65   70   75   80

Ile Asn Trp Val Leu Asp His Gln Asn Pro Asp Gly Ser Trp Gly Ile
                85   90   95

Leu His Asp His Gln Leu Val Met Lys Ala Thr Leu Leu Ser Thr Leu
            100   105   110

Ala Cys Val Leu Thr Leu Lys Arg Trp Asp Ile Gly Asp Asp His Met
            115   120   125

Ser Lys Ala Leu Ser Phe Ile Lys Ser Asn Ile Ala Ser Ala Thr Asp
    130   135   140

Glu Asn Gln Arg Ser Pro Val Gly Phe Asp Ile Ile Phe Pro Gly Met
145   150   155   160

Ile Glu Tyr Ala Lys Asp Leu Asn Leu Asn Leu Pro Leu Ala Ser Met
            165   170   175

Asn Val Asp Ala Leu Val Gln Lys Lys Glu Leu Glu Leu Arg Ser Cys
            180   185   190

Cys Ser Asn Ser Glu Gly Gly Lys Ala Tyr Leu Ala Tyr Val Ser Glu
    195   200   205

Gly Ile Gly Lys Leu Gln Asp Trp Glu Met Val Met Arg Tyr Gln Arg
    210   215   220

Lys Asn Gly Ser Leu Phe Ser Ser Pro Ser Thr Thr Ala Val Ala Phe
225   230   235   240

Met His Arg Asn Asp Asp Gly Cys Phe Asn Tyr Leu Arg Ser Val Leu
            245   250   255

Gln Lys Phe His Ser Ser Val Pro Ala Ile Tyr Pro Leu Asp Ile Tyr
            260   265   270

Ala Arg Leu His Met Val Asp Ser Leu Gln Lys Leu Gly Ile Asp Gly
            275   280   285

His Phe Lys Asp Glu Ile Arg Ser Val Leu Asp Glu Thr Tyr Ser Cys
    290   295   300

Trp Met Gln Gly Glu Glu Asn Ile Phe Leu Asp Ala Ser Thr Cys Ala
305   310   315   320

Met Ala Phe Arg Met Leu Arg Val Glu Gly Tyr Asp Val Ser Ser Asp
                325   330   335

Gln Leu Thr Gln Phe Ser Glu Gly Leu Phe Ser Asn Cys Leu Gly Gly
                340   345   350

His Leu Lys Asp Phe Ser Ala Ser Leu Glu Leu Phe Lys Ala Ser Gln
                355   360   365

Ile Ile Ile Tyr Pro Asp Glu Phe Ile Leu Glu Asn Ile Asn Ser Trp
        370   375   380

Thr Ser Arg Phe Leu Asn His Gly Leu Ser Ser Gly Ser Val His Ser
385   390   395   400

Asp Arg Thr Glu Arg Leu Val Lys Gln Glu Ala Val Asn Ala Phe Glu
                405   410   415

Phe Pro Tyr Asn Ser Thr Leu Glu Arg Leu Ser Asn Lys Arg Ala Leu
                420   425   430

Glu Ser Tyr Ser Gly Asp Ile Val Arg Ile Ser Lys Thr Ala Tyr Ala
        435   440   445

Cys Leu Asn Phe Gly His Gln Asp Phe Leu Glu Leu Ala Val Glu Asp
        450   455   460

Phe Asn Thr Leu Gln Gly Ile His Arg Lys Glu Leu Lys Glu Leu Glu
465   470   475   480

Lys Trp Val Ile Glu Asn Lys Leu Asp Lys Leu Lys Phe Ala Arg Gln
                485   490   495

Lys Leu Ala Tyr Cys Tyr Phe Ser Ala Ala Ala Thr Leu Thr Ser Pro
                500   505   510

Glu Leu Cys Asp Ala Arg Leu Ser Trp Ala Lys Asn Gly Val Leu Thr
        515   520   525

Thr Val Val Asp Asp Phe Phe Asp Val Gly Gly Ser Glu Glu Glu Leu
        530   535   540

Val Asn Leu Ile Gln Leu Val Glu Lys Trp Asp Ala Ser Gly Glu Thr
545   550   555   560

Gly Tyr Cys Ser Lys Glu Val Glu Ile Ile Phe Leu Ala Leu His Ser
                565   570   575

Thr Ile Cys Glu Ile Gly Lys Lys Ala Leu Pro Trp Gln Gly Arg Ser
            580   585   590

Val Met Arg Asn Val Ile Asp Ile Trp Leu Ala Leu Leu Glu Ser Met
            595   600   605

Arg Lys Glu Ala Glu Trp Leu Lys Asn Lys Val Val Pro Ser Leu Asp
        610   615   620

Glu Tyr Met Glu Asn Gly Tyr Val Ser Phe Ala Leu Gly Pro Ile Val
625   630   635   640

Leu Pro Thr Leu Tyr Phe Val Gly Pro Lys Leu Pro Glu Glu Ile Val
            645   650   655

Gly Asn Cys Glu Tyr Lys Lys Leu Phe Lys Leu Met Ser Thr Ser Gly
            660   665   670

Arg Leu Leu Asn Asp Thr Arg Thr Phe Asp Arg Glu Ser Ser Glu Gly
        675   680   685

Lys Leu Asn Ala Leu Ser Leu Tyr Met Ile Ser Ala Gly Gly Lys Leu
    690   695   700

Thr Lys Glu Glu Ala Thr Glu Ala Met Lys Gly Asp Val Asp Arg Thr
705   710   715   720

Arg Arg Glu Leu Leu Arg Leu Val Leu Gln Glu Asn Ser Thr Ile Pro
            725   730   735

Arg Ala Cys Lys Asp Leu Phe Trp Lys Met Ser Cys Val Val His Leu
            740   745   750

Phe Tyr Arg Lys Asp Asp Gly Phe Thr Ser His Glu Leu Met Asn Ser
        755   760   765

Ala Lys Ala Leu Phe Glu Gln Pro Met Val Leu Asp Glu Leu Leu Asn
    770   775   780

Lys
785

<210>   390
<211>   788
<212>   PRT
<213>   Lactuca sativa

<400>   390

Met Asn Ile Ala Gln Ile Thr Ser Ser Ala Met Leu Val Pro Ser Ser
1   5   10   15

His Ile Pro His Arg Ser Trp Val Val Asn Cys Cys Met Val Gln Tyr
            20   25   30

Asn Pro Ser Gly Leu Arg Thr Ala Ser Ser Gln Ala Gly Gln Val Asn
        35   40   45

Pro Thr Val Met Thr Leu Asp Val Thr Lys Glu Arg Ile Arg Lys Leu
    50   55   60

Phe Asn Asn Val Glu Val Ser Val Ser Ser Tyr Asp Thr Ala Trp Val
65   70   75   80

Ala Met Val Pro Ser Pro Asn Ser Pro Lys Ser Pro Cys Phe Pro Asp
                85   90   95

Cys Leu Asn Trp Leu Leu Asp Asn Gln Leu Asp Asp Gly Ser Trp Gly
            100   105   110

Leu Leu Pro His Gln Ser Pro Leu Ile Lys Asp Thr Leu Ser Ser Thr
            115   120   125

Leu Ala Cys Val Leu Ala Leu Lys Arg Trp Asn Val Gly Lys Asp Gln
    130   135   140

Ile Asn Lys Gly Leu His Tyr Ile Glu Ser Asn Phe Ala Ser Val Thr
145   150   155   160

Asp Lys Asn Gln Ala Ser Pro Phe Gly Phe Asp Ile Ile Phe Pro Gly
                165   170   175

Met Leu Glu Tyr Ala Lys Asp Leu Asp Ile Lys Leu Pro Leu Asn Gln
            180   185   190

Thr His Leu Ser Val Met Leu His Glu Arg Glu Leu Glu Leu Arg Arg
            195   200   205

- 787 -

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Cys His Ser Asn Gly Arg Glu Ala Tyr Leu Ala Tyr Ile Ser Glu Gly
    210             215             220

Leu Gly Asn Leu Asn Asp Trp Asn Met Val Met Lys Tyr Gln Met Lys
225             230             235             240

Asn Gly Ser Leu Phe Asn Ser Pro Ser Ala Thr Ala Ser Val Leu Ile
            245             250             255

His His Gln Asn Ala Gly Cys Leu His Tyr Leu Thr Ser Leu Leu Asp
        260             265             270

Lys Phe Gly Asn Ala Val Pro Thr Val Tyr Pro Ile Asp Leu Tyr Val
        275             280             285

Arg Leu Ser Met Val Asp Thr Leu Glu Arg Leu Gly Ile Lys Arg His
    290             295             300

Phe Met Val Glu Ile Gln Asn Val Leu Asp Glu Thr Tyr Arg Cys Trp
305             310             315             320

Val Gln Gly Asp Val Gln Ile Phe Met Asp Val Val Thr Cys Ala Leu
            325             330             335

Ala Phe Arg Val Leu Arg Ser Asn Gly Tyr Glu Val Ser Ser Asp Pro
            340       ·         345             350

Leu Ala Lys Ile Thr Lys Glu Gly Asp Tyr Met Asn Ser Pro Glu Lys
        355             360             365

Pro Phe Lys Asp Val Tyr Thr Ser Leu Glu Val Tyr Lys Ala Ser Gln
    370             375             380

Ile Ile Tyr Gln Glu Glu Leu Ala Phe Arg Glu Gln Asn Leu Thr Ser
385             390             395             400

Tyr Leu Pro Ser Ser Asn Lys Leu Ser Asn Tyr Ile Leu Lys Glu Val
            405             410             415

Asp Asp Ala Leu Lys Phe Pro Phe Asn Gly Ser Leu Glu Arg Met Ser
            420             425             430

Thr Arg Arg Asn Ile Glu His Tyr Asn Leu Asn His Thr Arg Ile Leu
        435             440             445
```

```
Lys Thr Thr Tyr Ser Ser Ser Asn Ile Ser Asn Lys Asp Tyr Leu Lys
    450             455             460

Leu Ala Val Gln Asp Phe Asn Glu Cys Gln Ser Ile Tyr Cys Glu Glu
465             470             475             480

Leu Lys Asp Leu Glu Arg Trp Val Val Glu Asn Arg Leu Asp Lys Leu
            485             490             495

Lys Phe Ala Arg Gln Lys Thr Ala Tyr Cys Tyr Phe Ser Ala Ala Ser
            500             505             510

Phe Leu Ser Ser Pro Asp Leu Ser Asp Ala Arg Ile Ser Trp Ala Lys
        515             520             525

Ser Ser Ile Leu Thr Thr Val Ile Asp Asp Phe Phe Asp Val Gly Gly
    530             535             540

Ser Met Asp Glu Leu Val Asn Phe Val His Ile Ile Glu Lys Trp Asn
545             550             555             560

Val Asn Val Glu Asn Asp Cys Cys Ser Glu Glu Val Gly Val Leu Phe
            565             570             575

Leu Ala Leu Lys Asp Ala Val Cys Trp Ile Gly Asp Lys Ala Phe Lys
        580             585             590

Ile Gln Glu Arg Asn Ile Thr Ser His Val Ile Glu Ile Trp Leu Asp
        595             600             605

Leu Val Lys Ser Met Leu Arg Glu Ala Ile Trp Ala Lys Asp Gly Ser
    610             615             620

Ile Pro Thr Ile Asn Glu Tyr Met Glu Asn Gly Tyr Val Ser Phe Ala
625             630             635             640

Leu Gly Pro Ile Val Leu Pro Thr Leu Tyr Phe Leu Gly Val Lys Leu
            645             650             655

Ser Glu Glu Val Val Gln Ser Ser Glu Tyr His Lys Leu Tyr Glu Val
            660             665             670

Met Ser Thr Gln Gly Arg Leu Met Asn Asp Ile His Ser Phe Lys Arg
        675             680             685
```

```
Glu Lys Lys Ala Gly Lys Leu Asn Ala Val Ala Leu Tyr Met Ser Asp
    690             695             700

Gly Lys Ser Gly Ser Val Glu Glu Glu Val Val Glu Glu Met Lys Ile
705             710             715             720

Leu Thr Lys Ser Gln Arg Lys Glu Met Met Lys Leu Val Leu Glu Thr
                725             730             735

Lys Gly Ser Val Val Pro Arg Val Cys Lys Asp Val Phe Trp Asn Met
            740             745             750

Cys Asn Val Leu Asn Leu Phe Tyr Ala Thr Asp Asp Gly Phe Thr Gly
        755             760             765

Asn Ala Ile Leu Asp Val Val Lys Glu Ile Ile Tyr Glu Pro Val Ser
    770             775             780

His Glu Leu Ile
785


<210>  391
<211>  952
<212>  PRT
<213>  Gibberella fujikuroi

<400>  391

Met Pro Gly Lys Ile Glu Asn Gly Thr Pro Lys Asp Leu Lys Thr Gly
1               5               10              15

Asn Asp Phe Val Ser Ala Ala Lys Ser Leu Leu Asp Arg Ala Phe Lys
            20              25              30

Ser His His Ser Tyr Tyr Gly Leu Cys Ser Thr Ser Cys Gln Val Tyr
        35              40              45

Asp Thr Ala Trp Val Ala Met Ile Pro Lys Thr Arg Asp Asn Val Lys
    50              55              60

Gln Trp Leu Phe Pro Glu Cys Phe His Tyr Leu Leu Lys Thr Gln Ala
65              70              75              80

Ala Asp Gly Ser Trp Gly Ser Leu Pro Thr Thr Gln Thr Ala Gly Ile
            85              90              95

Leu Asp Thr Ala Ser Ala Val Leu Ala Leu Leu Cys His Ala Gln Glu
        100             105             110
```

```
Pro Leu Gln Ile Leu Asp Val Ser Pro Asp Glu Met Gly Leu Arg Ile
        115                 120             125

Glu His Gly Val Thr Ser Leu Lys Arg Gln Leu Ala Val Trp Asn Asp
        130                 135             140

Val Glu Asp Thr Asn His Ile Gly Val Glu Phe Ile Ile Pro Ala Leu
145                 150             155             160

Leu Ser Met Leu Glu Lys Glu Leu Asp Val Pro Ser Phe Glu Phe Pro
                165             170             175

Cys Arg Ser Ile Leu Glu Arg Met His Gly Glu Lys Leu Gly His Phe
                180             185             190

Asp Leu Glu Gln Val Tyr Gly Lys Pro Ser Ser Leu Leu His Ser Leu
        195                 200             205

Glu Ala Phe Leu Gly Lys Leu Asp Phe Asp Arg Leu Ser His His Leu
        210                 215             220

Tyr His Gly Ser Met Met Ala Ser Pro Ser Ser Thr Ala Ala Tyr Leu
225                 230             235             240

Ile Gly Ala Thr Lys Trp Asp Asp Glu Ala Glu Asp Tyr Leu Arg His
                245             250             255

Val Met Arg Asn Gly Ala Gly His Gly Asn Gly Gly Ile Ser Gly Thr
                260             265             270

Phe Pro Thr Thr His Phe Glu Cys Ser Trp Ile Ile Ala Thr Leu Leu
        275             280             285

Lys Val Gly Phe Thr Leu Lys Gln Ile Asp Gly Asp Gly Leu Arg Gly
        290             295             300

Leu Ser Thr Ile Leu Leu Glu Ala Leu Arg Asp Glu Asn Gly Val Ile
305             310             315             320

Gly Phe Ala Pro Arg Thr Ala Asp Val Asp Asp Thr Ala Lys Ala Leu
                325             330             335

Leu Ala Leu Ser Leu Val Asn Gln Pro Val Ser Pro Asp Ile Met Ile
                340             345             350
```

```
Lys Val Phe Glu Gly Lys Asp His Phe Thr Thr Phe Gly Ser Glu Arg
        355             360             365

Asp Pro Ser Leu Thr Ser Asn Leu His Val Leu Leu Ser Leu Leu Lys
    370     ·           375             380

Gln Ser Asn Leu Ser Gln Tyr His Pro Gln Ile Leu Lys Thr Thr Leu
385             390   ·           395                     400

Phe Thr Cys Arg Trp Trp Trp Gly Ser Asp His Cys Val Lys Asp Lys
            405             410                 415

Trp Asn Leu Ser His Leu Tyr Pro Thr Met Leu Leu Val Glu Ala Phe
        420             425             430

Thr Glu Val Leu His Leu Ile Asp Gly Gly Glu Leu Ser Ser Leu Phe
        435             440             445

Asp Glu Ser Phe Lys Cys Lys Ile Gly Leu Ser Ile Phe Gln Ala Val
    450             455             460

Leu Arg Ile Ile Leu Thr Gln Asp Asn Asp Gly Ser Trp Arg Gly Tyr
465             470             475                     480

Arg Glu Gln Thr Cys Tyr Ala Ile Leu Ala Leu Val Gln Ala Arg His
            485             490                 495

Val Cys Phe Phe Thr His Met Val Asp Arg Leu Gln Ser Cys Val Asp
        500             505             510

Arg Gly Phe Ser Trp Leu Lys Ser Cys Ser Phe His Ser Gln Asp Leu
        515             520             525

Thr Trp Thr Ser Lys Thr Ala Tyr Glu Val Gly Phe Val Ala Glu Ala
    530             535             540

Tyr Lys Leu Ala Ala Leu Gln Ser Ala Ser Leu Glu Val Pro Ala Ala
545             550             555                     560

Thr Ile Gly His Ser Val Thr Ser Ala Val Pro Ser Ser Asp Leu Glu
            565             570             575

Lys Tyr Met Arg Leu Val Arg Lys Thr Ala Leu Phe Ser Pro Leu Asp
            580             585             590
```

Glu Trp Gly Leu Met Ala Ser Ile Ile Glu Ser Ser Phe Phe Val Pro
    595   600   605

Leu Leu Gln Ala Gln Arg Val Glu Ile Tyr Pro Arg Asp Asn Ile Lys
    610   615   620

Val Asp Glu Asp Lys Tyr Leu Ser Ile Ile Pro Phe Thr Trp Val Gly
625   630   635   640

Cys Asn Asn Arg Ser Arg Thr Phe Ala Ser Asn Arg Trp Leu Tyr Asp
            645   650   655

Met Met Tyr Leu Ser Leu Leu Gly Tyr Gln Thr Asp Glu Tyr Met Glu
        660   665   670

Ala Val Ala Gly Pro Val Phe Gly Asp Val Ser Leu Leu His Gln Thr
        675   680   685

Ile Asp Lys Val Ile Asp Asn Thr Met Gly Asn Leu Ala Arg Ala Asn
    690   695   700

Gly Thr Val His Ser Gly Asn Gly His Gln His Glu Ser Pro Asn Ile
705   710   715   720

Gly Gln Val Glu Asp Thr Leu Thr Arg Phe Thr Asn Ser Val Leu Asn
            725   730   735

His Lys Asp Val Leu Asn Ser Ser Ser Ser Asp Gln Asp Thr Leu Arg
            740   745   750

Arg Glu Phe Arg Thr Phe Met His Ala His Ile Thr Gln Ile Glu Asp
        755   760   765

Asn Ser Arg Phe Ser Lys Gln Ala Ser Ser Asp Ala Phe Ser Ser Pro
    770   775   780

Glu Gln Ser Tyr Phe Gln Trp Val Asn Ser Thr Gly Gly Ser His Val
785   790   795   800

Ala Cys Ala Tyr Ser Phe Ala Phe Ser Asn Cys Leu Met Ser Ala Asn
            805   810   815

Leu Leu Gln Gly Lys Asp Ala Phe Pro Ser Gly Thr Gln Lys Tyr Leu
        820   825   830

Ile Ser Ser Val Met Arg His Ala Thr Asn Met Cys Arg Met Tyr Asn

25156216   - 793 -

Asp Phe Gly Ser Ile Ala Arg Asp Asn Ala Glu Arg Asn Val Asn Ser
    850   855   860

Ile His Phe Pro Glu Phe Thr Leu Cys Asn Gly Thr Ser Gln Asn Leu
865   870   875   880

Asp Glu Arg Lys Glu Arg Leu Leu Lys Ile Ala Thr Tyr Glu Gln Gly
                885   890   895

Tyr Leu Asp Arg Ala Leu Glu Ala Leu Glu Arg Gln Ser Arg Asp Asp
            900   905   910

Ala Gly Asp Arg Ala Gly Ser Lys Asp Met Arg Lys Leu Lys Ile Val
            915   920   925

Lys Leu Phe Cys Asp Val Thr Asp Leu Tyr Asp Gln Leu Tyr Val Ile
    930   935   940

Lys Asp Leu Ser Ser Ser Met Lys
945   950

<210> 392
<211> 458
<212> PRT
<213> Zea mays

<400> 392

Gly Tyr Asn Val Ser Ser Asp Glu Leu Tyr His Val Val Glu Ala Ser
1   5   10   15

Gly Leu His Asn Ser Leu Gly Gly Tyr Leu Asn Asp Thr Arg Thr Leu
            20   25   30

Leu Glu Leu His Lys Ala Ser Thr Val Ser Ile Ser Glu Asp Glu Ser
        35   40   45

Ile Leu Asp Ser Ile Gly Ser Arg Ser Arg Thr Leu Leu Arg Glu Gln
    50   55   60

Leu Glu Ser Gly Gly Ala Leu Arg Lys Pro Ser Leu Phe Lys Glu Val
65   70   75   80

Glu His Ala Leu Asp Gly Pro Phe Tyr Thr Thr Leu Asp Arg Leu His
                85   90   95

```
His Arg Trp Asn Ile Glu Asn Phe Asn Ile Ile Glu Gln His Met Leu
        100             105             110

Glu Thr Pro Tyr Leu Ser Asn Gln His Thr Ser Arg Asp Ile Leu Ala
        115             120             125

Leu Ser Ile Arg Asp Phe Ser Ser Ser Gln Phe Thr Tyr Gln Gln Glu
    130             135             140

Leu Gln His Leu Glu Ser Trp Val Lys Glu Cys Arg Leu Asp Gln Leu
145             150             155             160

Gln Phe Ala Arg Gln Lys Leu Ala Tyr Phe Tyr Leu Ser Ala Ala Gly
            165             170             175

Thr Met Phe Ser Pro Glu Leu Ser Asp Ala Arg Thr Leu Trp Ala Lys
        180             185             190

Asn Gly Val Leu Thr Thr Ile Val Asp Asp Phe Phe Asp Val Ala Gly
        195             200             205

Ser Lys Glu Glu Leu Glu Asn Leu Val Met Leu Val Glu Met Trp Asp
    210             215             220

Glu His His Lys Val Glu Phe Tyr Ser Glu Gln Val Glu Ile Ile Phe
225             230             235             240

Ser Ser Ile Tyr Asp Ser Val Asn Gln Leu Gly Glu Lys Ala Ser Leu
            245             250             255

Val Gln Asp Arg Ser Ile Thr Lys His Leu Val Glu Ile Trp Leu Asp
            260             265             270

Leu Leu Lys Ser Met Met Thr Glu Val Glu Trp Arg Leu Ser Lys Tyr
            275             280             285

Val Pro Thr Glu Lys Glu Tyr Met Ile Asn Ala Ser Leu Thr Phe Gly
    290             295             300

Leu Gly Pro Ile Val Leu Pro Ala Leu Tyr Phe Val Gly Pro Lys Ile
305             310             315             320

Ser Glu Ser Ile Val Lys Asp Pro Glu Tyr Asp Glu Leu Phe Lys Leu
            325             330             335
```

```
Met Ser Thr Cys Gly Arg Leu Leu Asn Asp Val Gln Thr Phe Glu Arg
              340               345               350

Glu Tyr Asn Glu Gly Lys Leu Asn Ser Val Ser Leu Leu Val Leu His
          355               360               365

Gly Gly Ser Met Ser Ile Ser Asp Ala Lys Arg Lys Leu Gln Lys Pro
      370               375               380

Ile Asp Thr Cys Arg Arg Asp Leu Leu Ser Leu Val Leu Arg Glu Glu
385               390               395               400

Ser Val Val Pro Arg Pro Cys Lys Glu Leu Phe Trp Lys Met Cys Lys
              405               410               415

Val Cys Tyr Phe Phe Tyr Ser Thr Thr Asp Gly Phe Ser Ser Gln Val
          420               425               430

Glu Arg Ala Lys Glu Val Asp Ala Val Ile Asn Glu Pro Leu Lys Leu
          435               440               445

Gln Gly Ser His Thr Leu Val Ser Asp Val
      450               455


<210>  393
<211>  85
<212>  PRT
<213>  Mycobacterium tuberculosis

<400>  393

Met Thr Val Arg Ala Val Leu Arg Arg Thr Val Gly Ala Gln Trp Pro
1             5               10              15

Ile Leu Ala Gly Val Asn Phe Trp Arg Arg Gly Ala Leu Leu Ile Gly
          20              25              30

Ile Gly Val Gly Val Ala Ala Val Leu Arg Leu Val Leu Ser Glu Glu
          35              40              45

Arg Ala Gly Leu Leu Val Val Arg Ser Lys Gly Ile Asp Phe Val Thr
      50              55              60

Thr Val Thr Val Ala Ala Ala Met Val Tyr Ile Ala Ser Thr Ile Asp
65              70              75              80

Pro Leu Gly Thr Gly
              85
```

<210> 394
<211> 801
<212> PRT
<213> Pisum sativum

<400> 394

Met Phe Thr His Phe Ser Thr His Phe His Leu Pro Ser Ser Ser Ser
1   5   10   15

Leu Phe Phe Leu His Pro Phe Tyr Lys Ser Ser Ser Leu Gly Ala Val
                20   25   30

Ser Phe Val Ala Lys Asp Lys Glu Lys Arg Cys Arg Ala Ile Ser Lys
            35   40   45

Ser Arg Thr Gln Glu Tyr Glu Gly Val Phe Gln Thr Asn Val Ala Thr
        50   55   60

Leu Lys Leu Ser Glu Ile Asn Val Glu Asp Val Ile Val Ile Asp Asp
65   70   75   80

Glu Glu Glu Gln Asp Ile Arg Val Gly Leu Val Asn Lys Ile Lys Ser
                85   90   95

Ile Leu Ser Ser Leu Glu Asp Gly Glu Ile Thr Ile Ser Ala Tyr Asp
            100   105   110

Thr Ala Trp Val Ala Leu Val Glu Asp Val Asn Ala Ile Ser Thr Pro
        115   120   125

Gln Phe Pro Ser Ser Leu Glu Trp Ile Ala Lys Asn Gln Leu Gln Asp
    130   135   140

Gly Ser Trp Gly Asp Ser Arg Leu Phe Ser Ala His Asp Arg Ile Ile
145   150   155   160

Asn Thr Leu Ala Cys Val Ile Ala Leu Arg Ser Trp Asn Met His Ser
                165   170   175

Glu Lys Cys Asp Lys Gly Met Ile Phe Phe Arg Glu Asn Leu Ser Lys
            180   185   190

Leu Glu Asn Glu Asn Glu Glu His Met Pro Ile Gly Phe Glu Val Ala
        195   200   205

Phe Pro Ser Leu Leu Glu Gly Ala Arg Gly Ile Lys Pro Leu Met Cys
    210   215   220

Pro Asn Asp Ser Pro Ile Leu Lys Asn Ile Phe Glu Lys Arg Asp Glu
225   230   235   240

Lys Leu Thr Arg Ile Pro Lys Glu Ile Met His Lys Val Pro Thr Thr
              245   250   255

Leu Leu His Ser Leu Glu Gly Met Ser Gly Leu Asp Trp Lys Gln Leu
          260   265   270

Leu Lys Leu Gln Ser Gln Asp Gly Ser Phe Leu Phe Ser Pro Ser Ser
          275   280   285

Thr Ala Phe Ala Leu Met Gln Thr Lys Asp Gly Asn Cys Leu Lys Tyr
    290   295   300

Leu Asn Asn Val Val Lys Lys Phe Asn Gly Gly Val Pro Asn Val Tyr
305   310   315   320

Pro Val Asp Leu Phe Glu His Ile Trp Val Val Asp Arg Leu Glu Arg
              325   330   335

Leu Gly Ile Ser Arg Phe Phe Arg His Glu Ile Lys Asp Cys Met Asn
          340   345   350

Tyr Val Ser Lys Ile Trp Ser Glu Lys Gly Ile Cys Trp Ala Arg Asn
    355   360   365

Ser Asn Val Gln Asp Ile Asp Asp Thr Ala Met Ala Phe Arg Leu Leu
    370   375   380

Arg Leu His Gly His Gln Val Ser Ala His Val Phe Lys His Phe Glu
385   390   395   400

Arg Asn Gly Glu Phe Phe Cys Phe Ala Gly Gln Cys Thr Gln Ala Val
              405   410   415

Thr Gly Met Tyr Asn Leu Phe Arg Ala Ser Gln Val Leu Phe Pro Gly
              420   425   430

Glu Lys Ile Leu Glu His Ala Lys His Phe Ser Ala Lys Val Leu Lys
          435   440   445

Glu Lys Arg Glu Ala Asn Glu Leu Ile Asp Lys Trp Ile Ile Met Lys

25156216   - 798 -

Asn Leu Pro Glu Glu Val Gly Tyr Ala Leu Asp Met Pro Trp Tyr Ala
465   470   475   480

Asn Leu Asp Arg Ile Glu Thr Arg Phe Tyr Ile Asp Gln Tyr Gly Ala
            485   490   495

Glu Ser Asp Val Trp Ile Gly Lys Thr Leu Tyr Arg Met Ala Tyr Val
            500   505   510

Asn Asn Asn Asn Tyr Leu Glu Leu Ala Lys Leu Asp Tyr Asn Asn Cys
            515   520   525

Gln Ala Gln His Leu Ile Glu Trp Asn Val Ile Gln Thr Trp Tyr Leu
            530   535   540

Glu Ser Arg Leu Gly Glu Phe Gly Leu Ser Lys Arg Asp Leu Leu Leu
545   550   555   560

Ala Tyr Phe Leu Ala Thr Gly Ser Ile Phe Glu Pro Glu Arg Ser His
            565   570   575

Glu Arg Leu Ala Trp Ala Lys Thr Thr Ala Leu Leu Glu Thr Ile Lys
            580   585   590

Cys Tyr Val Arg Asn Glu Asp Leu Arg Lys Asp Phe Ala Lys Lys Phe
            595   600   605

Asn Asp His Ile Asp Val Arg Asp Tyr Ser Ile Ala Arg Arg Met Lys
            610   615   620

Arg Asn Lys Thr Glu His Glu Leu Val Glu Ser Leu Phe Ala Thr Ile
625   630   635   640

Gly Glu Ile Ser Trp Asp Val Arg Leu Ser Tyr Gly His Glu Ile Gly
            645   650   655

Tyr Asp Met His Gln Cys Trp Lys Lys Trp Leu Ser Ser Trp Gln Ser
            660   665   670

Glu Gly Asp Lys Cys Glu Gly Glu Ala Glu Leu Leu Ile Gln Ile Ile
            675   680   685

Asn Leu Cys Ser Asn His Trp Ile Ser Glu Gly Pro Ser Met Gln Ser
            690   695   700

```
Thr Ile Gln His Leu Leu Gln Leu Thr Asn Ser Ile Cys His Lys Leu
705             710             715             720

Ser Cys Tyr Gln Lys Asp Lys Glu Leu Lys Gly Ile Ser Cys Gln Glu
            725             730             735

Asn Ile Thr Asn Ser Glu Val Glu Ser Lys Met Gln Glu Leu Val Gln
            740             745             750

Met Val Phe Gln Lys Cys Pro Asn Asp Ile Asp Phe Asn Val Lys Asn
            755             760             765

Thr Phe Phe Thr Ile Ala Lys Ser Phe Tyr Tyr Ala Ala Phe Cys Asp
    770             775             780

Ser Arg Thr Ile Asn Phe His Ile Ala Lys Val Leu Phe Glu Lys Val
785             790             795             800

Val


<210>  395
<211>  789
<212>  PRT
<213>  Cucurbita maxima

<400>  395

Met Tyr Leu Ser Arg Pro Thr Gly Val Ala Arg Phe Ala Ala Ser Ser
1           5               10              15

Ser Ser Ser Ser Ser Ala Ser Leu Phe Pro Gly Val Asp Val Asp Thr
            20              25              30

Thr Thr Lys Thr Gly Ala Leu His Phe Glu Glu Thr Lys Glu Arg Ile
        35              40              45

Lys Lys Leu Phe Asp Lys Val Glu Leu Ser Val Ser Ala Tyr Asp Thr
    50              55              60

Ala Trp Val Ala Met Val Pro Ser Pro Asn Ser Leu Asn Gln Pro Leu
65              70              75              80

Phe Pro Glu Cys Ile Asn Trp Val Leu Asp Ser Gln His Ala Asp Gly
            85              90              95
```

Ser Trp Gly Leu Leu His Asn Asp Gln Leu Leu Met Lys Ala Asn Leu
            100   105   110

Leu Ser Thr Leu Ala Cys Val Leu Thr Leu Lys Arg Trp Asn Ile Gly
            115   120   125

His Asp His Met Ser Lys Ala Leu Asp Phe Ile Lys Ser Asn Ile Ala
            130   135   140

Ser Ala Thr Asp Glu Asn Gln Arg Ser Pro Val Gly Phe Asp Ile Ile
145   150   155   160

Phe Pro Gly Met Ile Glu Tyr Ala Lys Asp Leu Asn Leu Asn Leu Pro
                165   170   175

Leu Ala Pro Thr Asn Val Asp Ala Leu Val Arg Lys Lys Glu Leu Glu
                180   185   190

Leu Arg Ser Cys Arg Ser Asn Ser Glu Gly Gly Lys Ala Tyr Leu Ala
            195   200   205

Tyr Val Ser Glu Gly Ile Gly Lys Leu Gln Asp Trp Asp Met Val Met
    210   215   220

Gln Tyr Gln Arg Lys Asn Gly Ser Leu Phe Asn Ser Pro Ser Thr Thr
225   230   235   240

Ala Ala Ala Phe Met His Arg Asn Asp Asp Gly Cys Phe Asp Tyr Leu
                245   250   255

Arg Ser Leu Leu Gln Lys Phe Asp Gly Ser Val Pro Thr Ile Tyr Pro
            260   265   270

Leu Asp Ile Tyr Ala Arg Leu His Met Val Asp Ser Leu Gln Lys Phe
            275   280   285

Gly Ile Ala Arg His Phe Lys Glu Glu Ile Arg Ser Val Leu Asp Glu
    290   295   300

Thr Tyr Arg Cys Trp Met Gln Gly Glu Glu Asn Ile Phe Leu Asp Ala
305   310   315   320

Ser Thr Cys Ala Met Ala Phe Arg Met Leu Arg Val Glu Gly Tyr Asp
                325   330   335

Val Ser Ser Asp Gln Leu Thr Gln Phe Ser Glu Asp Ile Phe Pro Asn

Cys Leu Gly Gly Tyr Leu Lys Asp Phe Gly Ala Ser Leu Glu Leu Tyr
    355   360   365

Lys Ala Ser Gln Ile Ile Thr His Pro Asp Glu Ser Val Leu Glu Asn
    370   375   380

Ile Asn Ser Trp Thr Ser Arg Phe Leu Lys His Gly Leu Ser Ser Asp
385   390   395   400

Ser Val Trp Ser Asp Arg Thr Asp Ser Val Val Lys Gln Glu Ala Val
        405   410   415

Asn Ala Leu Glu Phe Pro Tyr Asn Ala Thr Leu Glu Arg Leu Ile Ser
      420   425   430

Lys Arg Ala Met Glu Ser Tyr Ser Gly Asp Ile Val Arg Ile Ser Lys
      435   440   445

Ser Pro Tyr Ala Cys Leu Asn Phe Gly His Gln Asp Phe Leu Glu Leu
    450   455   460

Ala Val Glu Asp Phe Asn Thr Leu Gln Arg Ile His Leu Lys Glu Leu
465   470   475   480

Glu Glu Leu Gln Arg Trp Val Val Glu Asn Lys Leu Asp Glu Leu Lys
        485   490   495

Phe Phe Arg Leu His Leu Gly Tyr Cys Tyr Phe Ala Ala Ala Ala Thr
      500   505   510

Leu Thr Asp Pro Glu Leu His Asp Ala Arg Ile Ala Trp Ala Gln Asn
      515   520   525

Gly Val Leu Thr Thr Val Val Asp Asp Phe Tyr Asp Gly Gly Gly Ser
    530   535   540

Glu Glu Glu Leu Asp Asn Leu Ile Glu Leu Val Glu Lys Trp Asp Pro
545   550   555   560

Asp Gly Glu Val Gly Tyr Cys Ser Lys Asp Val Glu Ile Val Phe Leu
        565   570   575

Ala Leu His Ser Thr Val Cys Glu Ile Gly Arg Arg Ala Leu Val Trp
      580   585   590

```
Gln Gly Arg Ser Val Met Arg Asn Val Ile Asp Gly Trp Leu Ala Leu
        595                 600             605


Leu Lys Val Met Arg Lys Glu Ala Glu Trp Ser Thr Asn Lys Val Val
        610                 615             620


Pro Ser Met Gly Glu Tyr Met Glu Gln Ala His Val Ser Phe Ala Leu
625                 630             635                     640


Gly Pro Ile Ile Leu Pro Met Leu Phe Phe Val Gly Pro Lys Leu Ser
                645             650                 655


Glu Glu Met Ile Gly Ser Cys Glu Tyr Gln Lys Leu Tyr Lys Leu Met
            660                 665             670


Ser Thr Ala Gly Arg Leu Lys Asn Asp Ile Arg Ser Tyr Asp Arg Glu
        675                 680             685


Cys Lys Glu Gly Lys Leu Asn Ile Leu Ser Leu Trp Met Ile Asp Gly
        690                 695             700


Gly Gly Asn Val Thr Lys Glu Glu Ala Ile Glu Ala Ile Lys Gly Asp
705                 710             715                     720


Phe Glu Arg Ala Ile Arg Glu Leu Leu Gly Leu Val Leu Gln Glu Asn
                725             730                 735


Thr Thr Ile Pro Arg Ala Cys Lys Asp Leu Phe Trp Lys Leu Met Ser
                740             745                 750


Ile Val Asn Leu Phe Tyr Met Glu Asp Asp Gly Tyr Thr Ser Asn Arg
            755                 760             765


Leu Met Asn Thr Val Lys Ala Met Phe Glu Gln Pro Met Asp Leu Asp
        770                 775             780


Ala Leu Leu Asn Lys
785


<210>  396
<211>  823
<212>  PRT
<213>  Zea mays

<400>  396
```

```
Met Pro Tyr Pro His Pro Tyr Pro Trp Gln Ser Ser Arg Arg Arg Arg
1            5            10               15


Arg Arg Arg Gly Arg Asp Gly Ala Pro Arg Gln Pro Gln Ala Arg Arg
            20            25               30


Val Val Glu Arg Ala Ala Ala Gly Pro Gly His Ala Thr Thr Thr Gln
            35            40               45


Gln Pro Asp Asn Val Ser Ser Ala Lys Val Phe Gln Thr Ser Arg Val
    50            55               60


Glu Thr Glu Ser Lys Leu Arg Asn Gly Arg Lys Pro Gln Asp Leu Glu
65            70               75               80


Asp Glu His Gln Ala Glu Glu Ala Glu Leu Gln Pro Leu Ile Asp Gln
            85            90               95


Val Arg Ala Met Leu Arg Ser Met Asn Asp Gly Asp Thr Ser Ala Ser
            100           105              110


Ala Tyr Asp Thr Ala Trp Val Ala Met Val Pro Lys Val Gly Gly Asp
        115           120              125


Gly Gly Ala Gln Pro Gln Phe Pro Ala Thr Val Arg Trp Ile Val Asp
    130           135              140


His Gln Leu Pro Asp Gly Ser Trp Gly Asp Ser Ala Leu Phe Ser Ala
145               150              155              160


Tyr Asp Arg Met Ile Asn Thr Leu Ala Cys Val Val Ala Leu Thr Lys
        165           170              175


Trp Ser Leu Glu Pro Ala Arg Cys Glu Ala Gly Leu Ser Phe Leu His
        180           185              190


Glu Asn Met Trp Arg Leu Ala Glu Glu Glu Ala Glu Ser Met Pro Ile
        195           200              205


Gly Phe Glu Ile Ala Phe Pro Ser Leu Ile Gln Thr Ala Arg Asp Leu
    210           215              220


Gly Val Val Asp Phe Pro Tyr Gly His Pro Ala Leu Gln Ser Ile Tyr
225               230              235              240


Ala Asn Arg Glu Val Lys Leu Lys Arg Ile Pro Arg Asp Met Met His
```

Arg Val Pro Thr Ser Ile Leu His Ser Leu Glu Gly Met Pro Asp Leu
        260   265   270

Asp Trp Pro Arg Leu Leu Asn Leu Gln Ser Cys Asp Gly Ser Phe Leu
        275   280   285

Phe Ser Pro Ser Ala Thr Ala Tyr Ala Leu Met Gln Thr Gly Asp Lys
        290   295   300

Lys Cys Phe Glu Tyr Ile Asp Arg Ile Val Lys Lys Phe Asn Gly Gly
305   310   315   320

Val Pro Asn Val Tyr Pro Val Asp Leu Phe Glu His Ile Trp Val Val
                325   330   335

Asp Arg Leu Glu Arg Leu Gly Ile Ser Arg Tyr Phe Gln Arg Glu Ile
        340   345   350

Glu Gln Cys Met Asp Tyr Val Asn Arg His Trp Thr Glu Asp Gly Ile
        355   360   365

Cys Trp Ala Arg Lys Ser Asn Val Lys Asp Val Asp Asp Thr Ala Met
        370   375   380

Ala Phe Arg Leu Leu Arg Leu His Gly Tyr Asn Val Ser Pro Ser Val
385   390   395   400

Phe Lys Asn Phe Glu Lys Asp Gly Glu Phe Phe Cys Phe Val Gly Gln
                405   410   415

Ser Thr Gln Ala Val Thr Gly Met Tyr Asn Leu Asn Arg Ala Ser Gln
        420   425   430

Ile Ser Phe Gln Gly Glu Asp Val Leu His Arg Ala Arg Val Phe Ser
        435   440   445

Tyr Glu Phe Leu Arg Gln Arg Glu Glu Gln Gly Met Ile Arg Asp Lys
    450   455   460

Trp Ile Val Ala Lys Asp Leu Pro Gly Glu Val Gln Tyr Thr Leu Asp
465   470   475   480

Phe Pro Trp Tyr Ala Ser Leu Pro Arg Val Glu Ala Arg Thr Tyr Leu
                485   490   495

Asp Gln Tyr Gly Gly Lys Asp Asp Val Trp Ile Gly Lys Thr Leu Tyr
        500   505   510

Arg Met Pro Leu Val Asn Asn Asp Thr Tyr Leu Glu Leu Ala Ile Arg
        515   520   525

Asp Phe Asn His Cys Gln Ala Leu His Gln Leu Glu Cys Asn Gly Leu
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Gln Thr Trp Tyr Lys Asp Asn Cys Leu Asp Ala Phe Gly Val Glu Pro
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Gln Asp Val Leu Arg Ser Tyr Phe Leu Ala Ala Ala Cys Ile Phe Glu
            565   570   575

Pro Ser Arg Ala Ala Glu Arg Leu Ala Trp Ala Arg Thr Ser Met Ile
        580   585   590

Ala Asn Ala Ile Ser Thr His Leu Arg Asp Ile Ser Glu Asp Lys Lys
        595   600   605

Arg Leu Glu Cys Phe Val His Cys Leu Tyr Glu Glu Asn Asp Val Ser
    610   615   620

Trp Leu Lys Arg Asn Pro Asn Asp Val Ile Leu Glu Arg Ala Leu Arg
625   630   635   640

Arg Leu Ile Asn Leu Leu Ala Gln Glu Ala Leu Pro Ile His Glu Gly
            645   650   655

Gln Arg Phe Ile His Ser Leu Leu Ser Leu Ala Trp Thr Glu Trp Met
        660   665   670

Leu Gln Lys Ala Asn Lys Glu Glu Asn Lys Tyr His Lys Cys Ser Gly
        675   680   685

Ile Glu Pro Gln Tyr Met Val His Asp Arg Gln Thr Tyr Leu Leu Leu
    690   695   700

Val Gln Val Ile Glu Ile Cys Ala Gly Arg Ile Gly Glu Ala Val Ser
705   710   715   720

Met Ile Asn Asn Lys Asp Asn Asp Trp Phe Ile Gln Leu Thr Cys Ala
            725   730   735

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Thr Cys Asp Ser Leu Asn His Arg Met Leu Leu Ser Gln Asp Thr Met
        740             745             750
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Lys Asn Glu Ala Arg Ile Asn Trp Ile Glu Lys Glu Ile Glu Leu Asn
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Met Gln Glu Leu Ala Gln Ser Leu Leu Leu Arg Cys Asp Glu Lys Thr
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Ser Asn Lys Lys Thr Lys Lys Thr Leu Trp Asp Val Leu Arg Ser Leu
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Tyr Tyr Ala Thr His Ser Pro Gln His Met Ile Asp Arg His Val Ser
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Lys Arg Ser Ser Phe Gly Phe Asn Ala Gln His Cys Val Arg Ser His
            35                  40                  45


Leu Arg Leu Arg Trp Asn Cys Val Gly Ile His Ala Ser Ala Ala Glu
    50                  55                  60


Thr Arg Pro Asp Gln Leu Pro Gln Glu Glu Arg Phe Val Ser Arg Leu
65                  70                  75                  80


Asn Ala Asp Tyr His Pro Ala Val Trp Lys Asp Asp Phe Ile Asp Ser
                85                  90                  95


Leu Thr Ser Pro Asn Ser His Ala Thr Ser Lys Ser Ser Val Asp Glu
            100                 105                 110


Thr Ile Asn Lys Arg Ile Gln Thr Leu Val Lys Glu Ile Gln Cys Met
            115                 120                 125


Phe Gln Ser Met Gly Asp Gly Glu Thr Asn Pro Ser Ala Tyr Asp Thr
    130                 135                 140


Ala Trp Val Ala Arg Ile Pro Ser Ile Asp Gly Ser Gly Ala Pro Gln
145                 150                 155                 160


Phe Pro Gln Thr Leu Gln Trp Ile Leu Asn Asn Gln Leu Pro Asp Gly
                165                 170                 175


Ser Trp Gly Glu Glu Cys Ile Phe Leu Ala Tyr Asp Arg Val Leu Asn
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Thr Leu Ala Cys Leu Leu Thr Leu Lys Ile Trp Asn Lys Gly Asp Ile
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Lys Asp Glu Ala Asp Asn His Arg Pro Ser Gly Phe Glu Val Val Phe
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Pro Ala Met Leu Asp Glu Ala Lys Ser Leu Gly Leu Asp Leu Pro Tyr
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His Leu Pro Phe Ile Ser Gln Ile His Gln Lys Arg Gln Lys Lys Leu
            260             265             270

Gln Lys Ile Pro Leu Asn Val Leu His Asn His Gln Thr Ala Leu Leu
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Tyr Ser Leu Glu Gly Leu Gln Asp Val Val Asp Trp Gln Glu Ile Thr
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Asn Leu Gln Ser Arg Asp Gly Śer Phe Leu Ser Ser Pro Ala Ser Thr
305             310             315             320

Ala Cys Val Phe Met His Thr Gln Asn Lys Arg Cys Leu His Phe Leu
            325             330             335

Asn Phe Val Leu Ser Lys Phe Gly Asp Tyr Val Pro Cys His Tyr Pro
            340             345             350

Leu Asp Leu Phe Glu Arg Leu Trp Ala Val Asp Thr Val Glu Arg Leu
            355             360             365

Gly Ile Asp Arg Tyr Phe Lys Lys Glu Ile Lys Glu Ser Leu Asp Tyr
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Val Tyr Arg Tyr Trp Asp Ala Glu Arg Gly Val Gly Trp Ala Arg Cys
385             390             395             400

Asn Pro Ile Pro Asp Val Asp Asp Thr Ala Met Gly Leu Arg Ile Leu
            405             410             415

Arg Leu His Gly Tyr Asn Val Ser Ser Asp Val Leu Glu Asn Phe Arg
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Asp Glu Lys Gly Asp Phe Phe Cys Phe Ala Gly Gln Thr Gln Ile Gly
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Val Thr Asp Asn Leu Asn Leu Tyr Arg Cys Ser Gln Val Cys Phe Pro
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25156216   - 810 -

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Gln Asn Ala Leu Ala Lys Asn Asn Ala Phe Asp Lys Trp Ala Val Lys
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Lys Asp Leu Pro Gly Glu Val Glu Tyr Ala Ile Lys Tyr Pro Trp His
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Arg Ser Met Pro Arg Leu Glu Ala Arg Ser Tyr Ile Glu Gln Phe Gly
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Ser Asn Asp Val Trp Leu Gly Lys Thr Val Tyr Lys Met Leu Tyr Val
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Ser Asn Glu Lys Tyr Leu Glu Leu Ala Lys Leu Asp Phe Asn Met Val
545   550   555   560

Gln Ala Leu His Gln Lys Glu Thr Gln His Ile Val Ser Trp Trp Arg
            565   570   575

Glu Ser Gly Phe Asn Asp Leu Thr Phe Thr Arg Gln Arg Pro Val Glu
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Met Tyr Phe Ser Val Ala Val Ser Met Phe Glu Pro Glu Phe Ala Ala
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Cys Arg Ile Ala Tyr Ala Lys Thr Ser Cys Leu Ala Val Ile Leu Asp
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Asp Leu Tyr Asp Thr His Gly Ser Leu Asp Asp Leu Lys Leu Phe Ser
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Glu Ala Val Arg Arg Trp Asp Ile Ser Val Leu Asp Ser Val Arg Asp
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Asn Gln Leu Lys Val Cys Phe Leu Gly Leu Tyr Asn Thr Val Asn Gly
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Phe Gly Lys Asp Gly Leu Lys Glu Gln Gly Arg Asp Val Leu Gly Tyr
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Leu Arg Lys Val Trp Glu Gly Leu Leu Ala Ser Tyr Thr Lys Glu Ala
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Glu Trp Ser Ala Ala Lys Tyr Val Pro Thr Phe Asn Glu Tyr Val Glu
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Asn Ala Lys Val Ser Ile Ala Leu Ala Thr Val Val Leu Asn Ser Ile
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Phe Phe Thr Gly Glu Leu Leu Pro Asp Tyr Ile Leu Gln Gln Val Asp
            740               745               750

Leu Arg Ser Lys Phe Leu His Leu Val Ser Leu Thr Gly Arg Leu Ile
        755               760               765

Asn Asp Thr Lys Thr Tyr Gln Ala Glu Arg Asn Arg Gly Glu Leu Val
        770               775               780

Ser Ser Val Gln Cys Tyr Met Arg Glu Asn Pro Glu Cys Thr Glu Glu
785               790               795               800

Glu Ala Leu Ser His Val Tyr Gly Ile Ile Asp Asn Ala Leu Lys Glu
            805               810               815

Leu Asn Trp Glu Leu Ala Asn Pro Ala Ser Asn Ala Pro Leu Cys Val
            820               825               830

Arg Arg Leu Leu Phe Asn Thr Ala Arg Val Met Gln Leu Phe Tyr Met
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